



**US Department of the Interior
Bureau of Land Management
Carson City District, Nevada**

Draft Resource Management Plan and
Environmental Impact Statement



**VOLUME I: EXECUTIVE SUMMARY AND
CHAPTERS 1, 2 AND 3**

NOVEMBER 2014



It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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United States Department of the Interior



BUREAU OF LAND MANAGEMENT

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OCT 22 2014

In Reply Refer To:
LLNVC0000.1610

Dear Reader:

Attached for your review and comment is the Draft Resource Management Plan/Draft Environmental Impact Statement (Draft RMP/EIS) for the Nevada Bureau of Land Management (BLM) Carson City District, Sierra Front and Stillwater Field Offices. BLM prepared this document in consultation with cooperating agencies, and in accordance with the National Environmental Policy Act of 1969, as amended, the Federal Land Policy and Management Act of 1976, as amended, implementing regulations, the BLM's Land Use Planning Handbook (H-1601-1), and other applicable law and policy.

The planning area consists of about 9 million acres of land which includes about 4.8 million acres of public lands managed by the Sierra Front and Stillwater Field Offices in Carson City, Churchill, Douglas, Lyon, Mineral, Nye, Storey and Washoe Counties in western Nevada, and portions of Alpine, Lassen and Plumas Counties in eastern California. When approved, this RMP will replace the *2001 Carson City Field Office Consolidated Resource Management Plan* plus subsequent amendments and will guide the management of public lands administered by the Carson City District into the future. The *Carson City District Draft Resource Management Plan* and supporting information is available on the project web site at: http://www.blm.gov/nv/st/en/fo/carson_city_field.html.

The BLM encourages the public to provide information and comments pertaining to the analysis presented in the Draft RMP/EIS. We are particularly interested in feedback concerning the adequacy and accuracy of the proposed alternatives, the analysis of their respective management decisions, and any new information that would help the BLM as it develops the plan. In developing the Proposed RMP/Final EIS, which is the next phase of the planning process, the decision maker may select various management decisions from each of the alternatives analyzed in the Draft RMP/EIS for the purpose of creating a management strategy that best meets the needs of the resources and values in this area under the BLM multiple use and sustained yield mandate. As a member of the public, your timely comments on the *Carson City District Draft Resource Management Plan* will help formulate the Proposed RMP/Final EIS. Comments will be accepted for one hundred twenty (120) calendar days following the Environmental Protection Agency's (EPA) publication of its Notice of Availability in the Federal Register. The BLM can best utilize your comments and resource information submissions if received within the review period.

Comments may be submitted electronically at: blm_nv_ccdo_rmp@blm.gov. Comments may also be submitted by mail to: Carson City RMP, BLM Carson City District Office, 5665 Morgan Mill Road, Carson City, NV 89701. To facilitate analysis of comments and information submitted, we strongly encourage you to submit comments in an electronic format.

Your review and comments on the content of this document are critical to the success of this planning effort. If you wish to submit comments on the Draft RMP/EIS, we request that you make your comments

as specific as possible. Comments will be more helpful if they include suggested changes, sources, or methodologies, and reference to a section or page number. Comments containing only opinion or preferences will be considered and included as part of the decision making process, although they will not receive a formal response from the BLM.

Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment - including your personal identifying information - may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Public meetings to provide an overview of the document, respond to questions, and take public comments will be announced by local media, website, and/or public mailings at least 15 days in advance. Public meetings are currently scheduled for 5:00 to 7:00 p.m., on January 13, at the John Ascuaga's Nugget (1100 Nugget Ave.) in Sparks, Nev., on January 15, at the Fallon Convention Center (100 Campus Way) in Fallon, Nev., on January 20, at the Mineral County Library (First & A Street) in Hawthorne, Nev., on January 22, at the Carson Valley Inn (1627 US Hwy 395 N) in Minden, Nev., and on January 29, at the Yerington Elementary School (112 N. California St.) in Yerington, Nev. An additional public meeting will be held from 4:00 to 6:00 p.m., on January 24, at the Carson City Plaza Hotel and Event Center located at 801 South Carson Street, Carson City, NV.

Copies of the Draft RMP/EIS have been sent to affected Federal, state and local government agencies (USFS Plumas National Forest, USFS Humboldt-Toiyabe National Forest, Bureau of Reclamation, Stillwater National Wildlife Refuge Complex, US Fish and Wildlife Service, Naval Air Station Fallon, Marine Corps Mountain Warfare Training Center, Hawthorne Army Depot, Carson City, Alpine, Churchill, Douglas, Lyon, Mineral, Nye, Storey, and Washoe Counties, NV Department of Wildlife, NV Department of Conservation and Natural Resources, Bridgeport Paiute Indian Colony, Pyramid Lake Paiute Tribe, Reno-Sparks Indian Colony, Walker River Paiute Tribe, and the Washoe Tribe of NV and CA). Copies of the Draft RMP/EIS are available for public inspection at the Alpine, Churchill, Douglas, Mineral, Storey and Washoe County planning departments, Lyon County public libraries, Mineral County Public Library, Gabbs Town Hall and on the BLM website at http://www.blm.gov/nv/st/en/fo/carson_city_field.html. Copies are also available for public inspection at the following BLM locations:

Carson City District Office, 5665 Morgan Mill Road, Carson City, NV 89701
Nevada State Office, 1340 Financial Boulevard, Reno, NV 89502

Thank you for your continued interest in the *Carson City District Resource Management Plan*. We appreciate the information and suggestions you contribute to the planning process. For additional information or clarification regarding this document or the planning process, please contact Colleen Sievers, RMP Project Manager at 775-885-6168.

Sincerely,



for

Amy L. Lueders
State Director

/s/ Raul Morales

Acting

**CARSON CITY DISTRICT DRAFT RESOURCE MANAGEMENT PLAN AND
ENVIRONMENTAL IMPACT STATEMENT**

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ACRONYMS AND ABBREVIATIONS

Full Phrase

ACEC	area of critical environmental concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMS	Analysis of the Management Situation
APN	Assessor's parcel number
AQRV	air quality related value
AUM	animal unit month
BCB	Back County Byway
BCR	Bird Conservation Regions
BCWCA	Back Country Wildlife Conservation Areas
BLM	US Department of the Interior, Bureau of Land Management
BMP	best management practice
°C	degrees Celsius
CARB	California Air Resources Board
CBR	Central Basin and Range
CCD	US Department of the Interior, Bureau of Land Management, Carson City District
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CHP	cultural/historic
CO	carbon monoxide
CO ₂	carbon dioxide
COA	condition of approval
CRMP	consolidated resource management plan
CSU	controlled surface use
CTTM	comprehensive travel and transportation management
DOI	US Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
EPA	US Environmental Protection Agency
ERMA	Extensive Recreation Management Area
ESR	emergency stabilization and rehabilitation
°F	degrees Fahrenheit
FLPMA	Federal Land Policy and Management Act
FMU	fire management unit
Forest Service	United States Department of Agriculture, National Forest Service
FRCC	fire regime condition class
GIS	Geographic Information System
GPRA	Government Performance and Results Act
GRSG	Greater Sage-Grouse
HA	herd area

HMA	Herd Management Area
IM	Instruction Memorandum
LAC	limits of acceptable change
LUP	land use plan
LUPA	land use plan amendment
Ma	megaannum
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NAS	US Department of Defense, Naval Air Station
National Register	National Register of Historic Places
NDEP	Nevada Department of Environmental Protection
NDOW	Nevada Department of Wildlife
NDWR	Nevada Division of Water Resources
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NNHP	Nevada Natural Heritage Program
NO ₂	nitrogen dioxide
NPS	US Department of the Interior, National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statute
NSO	no surface occupancy
NV IBA	Nevada Important Bird Areas
NWIS	National Water Information System
NWSRS	National Wild and Scenic Rivers System
O ₃	ozone
OHV	off-highway vehicle
ORV	outstandingly remarkable values
PFC	Proper Functioning Condition
PFYC	Potential Fossil Yield Classification
PGH	preliminary general habitat
PGMA	preliminary general management area
PILT	Payments in Lieu of Taxes
Planning Area	Carson City District Resource Management Plan Planning Area
PM ₁₀	particulate matter with an aerodynamic diameter of 10 microns or less
PM _{2.5}	particulate matter with an aerodynamic diameter of 2.5 microns or less
ppb	parts per billion
PPH	preliminary priority habitat
ppm	parts per million
PPMA	preliminary priority management area
R&PP	Recreation and Public Purposes Act

RAC	Resource Advisory Council
RDF	required design features
REA	Rapid Ecological Assessment
Reclamation	US Department of the Interior, Bureau of Reclamation
RHA	Rangeland Health Assessments
RMIS	Recreation Management Information System
RMP	resource management plan
RMZ	recreation management zone
ROS	Recreation Opportunity Spectrum
ROW	right-of-way
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
Standards and Guidelines	Nevada Standards for Public Land Health and Guidelines for Livestock Grazing Management
TA	Target Areas
TCP	traditional cultural property
TL	timing limitations
TMA	travel management area
US	United States
USC	United States Code
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VRM	Visual Resource Management
WEG	Wind Erodibility Group
WHB	wild horse and burro
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland-urban interface

Executive Summary

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

The United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM), Carson City District (CCD) has prepared this draft resource management plan (RMP) and environmental impact statement (EIS) for managing public lands administered by the CCD. This document provides:

- Consolidated direction for managing public lands under the jurisdiction of the CCD
- An analysis of the environmental effects that could result from the implementation of the alternatives addressed in the RMP

This RMP will replace the 2001 Carson City District Consolidated RMP (BLM 2001c), including amendments.

ES.2 PLANNING AND DECISION AREA

The CCD RMP/EIS planning area is composed of approximately 9 million acres of public and private lands in Carson City, Churchill, Douglas, Lyon, Mineral, Nye, Storey, and Washoe Counties in western Nevada, and portions of Alpine, Lassen, and Plumas Counties in eastern California. The BLM administers nearly half (4.8 million acres) of the land in the planning area. The remaining area is composed of US Department of Agriculture, Forest Service (Forest Service), Bureau of Reclamation (Reclamation), US Fish and Wildlife Service (USFWS), Department of Defense (DOD), State of Nevada, State of California, and private lands as well as tribal lands governed by sovereign Native American tribes in consultation with the Bureau of Indian Affairs (BIA). See **Figure ES-1**, Carson City District RMP Planning Area, and **Table ES-1**, Land Status within the Carson City District RMP Planning Area.

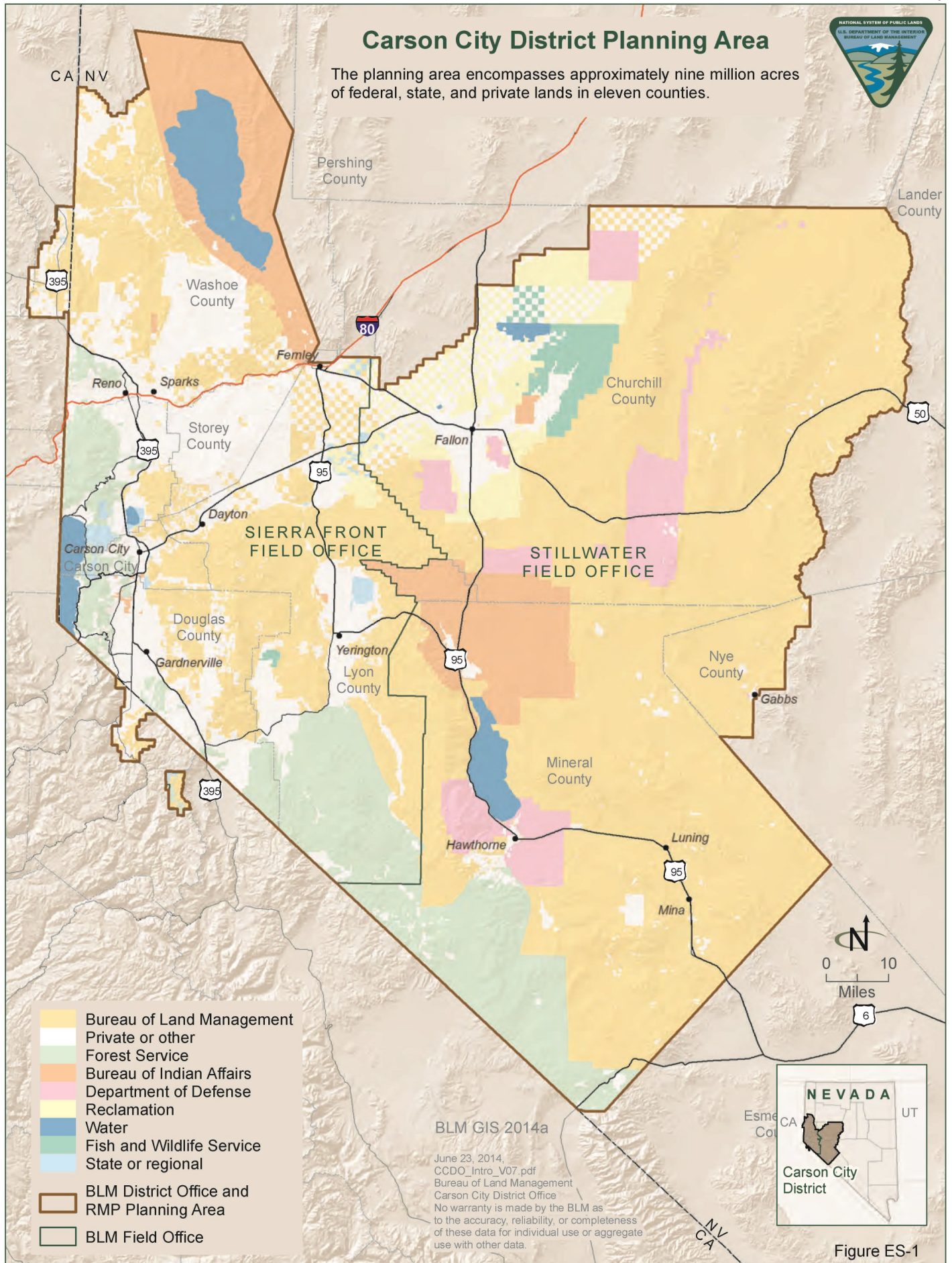


Figure ES-1

Table ES-1
Land Status within the Carson City District RMP
Planning Area

Agency	Acres
Bureau of Land Management	4,803,300
Forest Service (Nevada and California)	866,900
Bureau of Reclamation	304,000
Bureau of Indian Affairs	653,900
US Fish and Wildlife Service	103,900
Department of Defense	360,100
State of Nevada (including Nevada Department of Wildlife)	24,200
State of California	2,300
Private	1,507,900
Other (local, regional, water bodies)	312,600
<i>Total</i>	<i>8,939,100</i>

Source: BLM GIS 2014a

Management direction and actions provided in the RMP apply only to the decision area, which includes BLM-administered surface lands in the planning area and federal mineral estate lying beneath other surface ownership but administered by the BLM (split estate). A split estate can be either federal surface overlying private minerals or private surface overlying federal minerals. When it comes to BLM-administered surface and private minerals, the BLM has limited authority relating to public access for mineral exploration and development. On split estates where the surface is managed by another federal agency, the surface-managing agency establishes the mineral leasing requirements, which the BLM subsequently adopts.

ES.3 AUTHORITIES

The RMP is being prepared in accordance with the Federal Land Policy and Management Act (FLPMA) of 1976 (43 US Code [USC] 1701 et seq.), BLM Planning Regulations (43 Code of Federal Regulations [CFR] 1601-1610), and BLM Land Use Planning Handbook, H-1601-1 (BLM 2005a). This RMP provides planning-level guidance for the management of resources and designation of uses on BLM-administered lands. The RMP was developed in coordination with federal, state, and local governments, Native American tribes, and interested members of the public. Rather than providing entirely new management direction, this RMP carries forward existing management strategies where appropriate, while incorporating updated information and regulatory guidance made available since the adoption of the previous RMP. New management direction in the RMP also addresses land use issues and conflicts that have emerged since the previous RMP and RMP amendments were adopted.

The EIS incorporated as part of this document meets the requirements of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations for implementing the NEPA (40 CFR 1500-1508), the BLM's

Land Use Planning Handbook, H-1601-I (BLM 2005a), and the requirements of BLM NEPA Handbook, H-1790-I (BLM 2008a).

ES.4 PURPOSE OF AND NEED FOR THE RESOURCE MANAGEMENT PLAN

According to the FLPMA, the BLM shall “develop, maintain, and, when appropriate, revise land use plans” (43 USC 1712 [a]). Accordingly, the purpose of this RMP is to ensure that BLM-administered lands in the planning area are managed in accordance with the multiple use and sustained yield principles mandated by the FLPMA. With the support of new data, this RMP provides planning-level management strategies that are expressed in the form of goals, objectives, allowable uses, and management actions necessary to achieve the preferred conditions for resources and resource uses. The need for the RMP is to address policies and resource issues that have arisen since the adoption of the previous RMP and amendments. Major issues prompting the need for this RMP include the following:

- Management of energy resources, including renewable resources such as geothermal, wind, and solar
- Management of resources for which there is a high demand but limited supply, such as water or fish and wildlife
- Management for the protection of sensitive resources, such as cultural or paleontological artifacts
- Management of increased conflicts between competing resource values and land uses, particularly as a result of increased off-highway vehicle (OHV) use
- Management of the urban interface in light of expanding urban areas throughout the planning area

The BLM prepared this document using a collaborative planning process that included an interdisciplinary approach for fulfilling the need for new planning data. The BLM prepared the following plans, studies, and reports to support this RMP:

- CCD RMP/EIS Preparation Plan (March 2012)
- CCD RMP/EIS Collaboration and Communication Plan (May 2012)
- Scoping Summary Report (December 2012)
- Travel Management Workshop Report (January 2013)
- Socioeconomic Baseline Report (January 2013)
- Socioeconomic Report and Addendum (February 2013)
- Wild and Scenic River Eligibility Report (February 2013)
- Areas of Critical Environmental Concern Report (March 2013)

- Analysis of the Management Situation (April 2013)
- Mineral Potential Report (June 2013)
- Reasonably Foreseeable Development (RFD) Scenario for Solar, Wind, and Biomass Report (June 2013)
- Air Analysis Framework Report (June 2013)
- Ethnographic Report (December 2013)
- Cultural Overview/Synthesis Report (draft; April 2014)
- Lands with Wilderness Characteristics Report (July 2014)

As new policy requirements, planning issues, and scientific information emerge over time, the BLM may review the RMP and consider the need for updated management prescriptions and resource allocations. Per 43 CFR 1610.4-9, the BLM is required to monitor and evaluate land use plans (LUPs) such as RMPs to determine if LUP decisions remain relevant, remain effective, need revision, should be dropped, or require new decisions. The LUP evaluation process is described in BLM Planning Handbook H-1601-1. The BLM may only change adopted LUP decisions through the amendment or revision process, which includes adherence to the environmental review requirements under the NEPA.

The planning process consists of developing, approving, maintaining, and amending or revising an RMP. The BLM carries out this process under the authority of Section 202(f) of the FLPMA and Section 202(c) of the NEPA. The process, which includes a land use planning tier and implementation tier, follows BLM planning regulations codified in 43 CFR 1600 and the CEQ regulations codified in 40 CFR 1500.

Making decisions on land use planning involves identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing the allowable uses and management actions necessary to achieve the goals and objectives. These critical determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while sustaining land health. Adaptive management may result in adjustments of goals, objectives, management area prescriptions, and standards and guidelines constraining land uses. This process is discussed in more detail in **Section 1.8.4**, Adaptive Management and Regional Mitigation Strategies. The BLM may also establish criteria in the LUP to guide the identification of site-specific use levels for activities during plan implementation.

The BLM develops and maintains the RMP, which will guide BLM management decisions for BLM-administered lands in the CCD planning area. Subsequent site-specific management decisions will require implementation plan decisions at a smaller geographic scale. Accordingly, implementation consists of the more detailed activity- or implementation-level planning that takes place as part of the

BLM's daily operations. Activity planning can include the development of recreation management plans, allotment management plans (AMPs), and the implementation of other similar plans that authorize, limit, or restrict the use of resources on BLM-administered lands. Implementation planning requires public outreach and NEPA compliance. Unlike LUP decisions, implementation decisions are not subject to protest under the planning regulations. Instead, implementation decisions are subject to various administrative remedies, particularly appeals to the Interior Board of Land Appeals. The Proposed RMP/Final EIS will outline LUP and implementation decisions, if necessary (and clearly distinguish between the two types of decisions).

This Draft RMP/EIS includes sage-grouse habitat management allocations consistent with the Nevada and Northeastern California Greater Sage-Grouse Draft LUP Amendment/EIS and the Bi-State Sage Grouse Draft Forest Plan/LUP Amendment. These plan amendment documents have been released as public drafts and no decisions have been made. Decisions on these documents are expected prior to issuance of the Proposed RMP/Final EIS, and decisions for the Greater Sage-Grouse and bi-state sage grouse efforts will help inform the Proposed RMP/Final EIS. To facilitate district-level planning during the interim period, the CCD has developed a range of alternatives for analysis.

ES.5 ALTERNATIVES

RMP decisions consist of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allowable uses and management actions necessary for achieving the goals and objectives. In accordance with the FLPMA, these determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while sustaining land health.

ES.5.1 Purpose of Alternative Development

Alternative development is the cornerstone of the RMP/EIS process. Land use planning and NEPA regulations require the BLM to formulate a reasonable range of alternatives. Established planning criteria, as outlined in 43 CFR Section 1610, guide the alternative development process.

The basic goal of alternative development is to produce distinct potential management scenarios that:

- Address the identified major planning issues
- Explore opportunities to enhance management of resources and resource uses
- Resolve conflicts among resources and resource uses
- Meet the purpose of and need for the RMP

The NEPA regulation at 40 CFR 1501.2(c) states in part that federal agencies shall, “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” Alternative development provides the BLM and the public with an understanding of the diverse ways in which conflicts regarding resources and resource uses might be resolved, and offers the BLM State Director a reasonable range of alternatives from which to make informed decisions. The components and broad aim of each alternative considered for the Carson City District RMP are discussed below.

ES.5.2 Alternative Development Process

Between January 16, 2013, and May 9, 2013, the BLM interdisciplinary team met to develop management goals while small teams met to identify objectives and actions to address the goals within their fields of expertise. The various groups met numerous times throughout this period to refine their work. The interdisciplinary team developed one no action alternative (Alternative A) and four action alternatives. The action alternatives were designed to:

- Address the 27 planning issues compiled from public input, cooperating agency feedback, and Resource Advisory Council input
- Fulfill the purpose and need for the RMP (outlined in **Section 1.1**, Purpose of and Need for the Resource Management Plan)
- Meet the multiple use and sustained yield mandates of the FLPMA

ES.5.3 Alternatives Considered for Detailed Analysis

Summary of Alternatives

The four action alternatives (Alternatives B, C, D, and E) offer a range of possible management approaches. Alternative B generally emphasizes resource use and economic development. Alternative C emphasizes strategies to preserve and protect ecosystem health and resource values. Alternative D includes strategies that address increased demand on BLM-administered lands within urban interface areas. Alternative E is the agency preferred alternative and includes a mix of management actions to resolve issues and offers an intermediate level of protection, restoration, and enhancement of resources. While the goals are the same across alternatives, each alternative contains a discrete set of objectives and management actions constituting separate RMP management scenarios. Each alternative addresses resource program goals to varying degrees, with the potential for different long-range outcomes and conditions. **Table 2-2**, Description of Alternatives A, B, C, D, and E, describes the proposed decisions for each alternative, including goals, objectives, management actions, and allowable uses for individual resource programs (see **Chapter 2**, Alternatives). Figures in **Appendix A**, Alternatives A, B, C, D, and E Figures, provide a visual representation of each alternative.

The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives.

In some instances, varying levels of management from different resource programs overlap. For example, the BLM proposes management for Hidden Cave, which is within the proposed Grimes Point Archeological Area of Critical Environmental Concern (ACEC). The ACEC management prescribes a no surface occupancy stipulation for fluid mineral leasing under Alternative B; however, the Hidden Cave prescription calls for a controlled surface use stipulation. In such instances where varying management levels overlap, the stricter management prescriptions would apply. However, if the Authorized Officer makes an exception to the stricter prescription, then the less strict management prescription would prevail.

ES.6 MANAGEMENT COMMON TO ALL ALTERNATIVES

Certain allowable uses and management actions from the existing RMPs remain valid and do not require revision. All of the proposed alternatives carry these forward, while other decisions are common only to the action alternatives (Alternatives B, C, D, and E).

Although each alternative is distinct in the resources and resource uses it emphasizes, all five alternatives do the following:

- Comply with state and federal laws, regulations, policies, and standards, including the FLPMA multiple use and sustained yield mandates.
- Implement actions originating from laws, regulations, and policies and conform to day-to-day management, monitoring, and administrative functions not specifically addressed.
- Preserve valid existing rights, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved. Existing fluid mineral leases are managed through Conditions of Approval outlined in the RMP.
- Offer diverse recreational opportunities that foster outdoor-oriented lifestyles and enhance quality of life.
- Apply best management practices (BMPs), standard operating procedures (shown in **Appendix B**, Best Management Practices and Standard Operating Procedures), and other site-specific mitigation measures to all resource uses to promote rapid reclamation, maximize resource protection, and minimize soil erosion.

- Make every effort to avoid adverse impacts if cultural or paleontological sites are found at project locations. Consult with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation in accordance with the State Protocol Agreement between the BLM and the SHPO, dated January 2012.
- Seek to enhance collaborative opportunities, partnerships, and communications with other agencies and interested parties to implement the RMP, including education and outreach and project-specific activities.
- Follow the procedures outlined in the Air Quality Memorandum of Understanding Among the US Department of Agriculture, US Department of the Interior, and US Environmental Protection Agency, Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the National Environmental Policy Act Process.
- Apply the exceptions, modifications, and waivers for fluid mineral leasing stipulations outlined in **Appendix C**, Fluid Mineral Leasing Stipulations, unless otherwise stated under a specific action.
- Identify and apply mitigation measures and conservation actions in order to achieve land use plan goals and objectives. The sequence of mitigation action will be the mitigation hierarchy (avoid, minimize, rectify, reduce or eliminate over time, compensate), as identified by CEQ (40 CFR 1508.20) and the BLM's Draft Manual Section 1794, Regional Mitigation.
- The ROW avoidance and exclusion areas for renewable energy in this plan are in conformance with the Final Programmatic EIS for Solar Energy Development in Six Southwestern States, as reflected in the acres below in **Table ES-2**, Comparative Summary of Alternatives.

ES.7 DESCRIPTION OF ALTERNATIVES

ES.7.1 Alternative A: No Action

Alternative A meets the NEPA requirement in 40 CFR 1502.14 that the BLM consider a no action alternative. This alternative provides the baseline against which to compare the other alternatives. This alternative would continue present management direction and practices based on existing LUPs and LUP amendments. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 2001 Consolidated RMP and subsequent LUP amendments. The current levels, methods, and mix of multiple use and sustained yield management of BLM-administered lands in the CCD decision area would

continue, and resource values would continue to receive attention at present levels.

ES.7.2 Alternative B

Alternative B emphasizes resource use and economic development (e.g., livestock grazing, energy, mineral development, and recreation) in the planning area. This alternative has the fewest restrictions to development and land use. Potential impacts on sensitive resources (e.g., soils and sensitive plant habitat) would be mitigated on a case-by-case basis. Sustainable development concepts are included to maintain economic productivity.

ES.7.3 Alternative C

Alternative C would develop management strategies to preserve and protect ecosystem health and resource values across the planning area, while providing multiple use and sustained yield. Resource development would be more constrained than under Alternatives B, D, or E, and in some cases and in some areas, uses would be excluded to protect sensitive resources. This alternative includes the most special designations, with specific measures to protect or enhance resource values within these areas. This alternative emphasizes active and specific measures to protect and enhance vegetation and habitat for special status species, fish, and wildlife. Likewise, this alternative would reflect a reduction in resource production goals for forage, renewable energy, and minerals. Resource production would generally be secondary to restoring and protecting important habitats, such as sagebrush and riparian areas. Sustainable development principles would focus on preserving ecological functions and environmental values.

ES.7.4 Alternative D

Alternative D emphasizes the increased demand on BLM-administered lands within the urban interface area. The interface is a set of conditions that affect resources and how they can be managed, rather than a geographic place. It is an area or zone where human infrastructure and urban development meet or intermingle with undeveloped BLM-administered land. Enhanced community development through a change in land tenure would be reflected. Alternative D provides for increased management of recreational opportunities in areas of high use while reducing conflict between use of the BLM-administered land and adjacent private landowners. Specific measures would also be applied to manage for increased pressures on the land and a higher demand from the public while minimizing adverse effects on the local communities. Where management is not specified for the urban interface areas, the current management (represented by Alternative A) would continue.

ES.7.5 Alternative E: Agency Preferred

Alternative E, Agency Preferred, represents a mix of management actions that best resolve the issues identified from the assessment of need for changing management, concerns raised during public scoping, and future management

considerations. This alternative would reflect a combination of goals and objectives for all values and programs. This alternative emphasizes an intermediate level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. The management strategy would be accomplished by using a variety of proactive and prescriptive measures that would protect vegetation and habitat and would promote the continuation of multiple-use management. Vegetation and special status species habitat would be restored and enhanced to provide for the continued presence of an ecologically healthy ecosystem using a suite of proactive and specific prescriptive management tools and implementation measures. Commodity and development-based resources such as livestock grazing and minerals production would be maintained on BLM-administered lands through specific actions to meet resource goals and protect ecosystem health. Management strategies would continue to provide for recreational opportunities on and access to BLM-administered lands and would take into consideration the result of management actions on the economies of communities within the region and user conflicts.

ES.8 COMPARISON OF ALTERNATIVES

Table ES-2, Comparative Summary of Alternatives, provides a comparative summary of alternatives and compares meaningful differences in allocations among the five alternatives. Figures in **Appendix A** provide a visual representation of the differences between alternatives.

Table ES-2
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Resources					
Wild Horses and Burros					
Herd Areas/Herd Management Areas	1,235,200	996,500	1,090,000	996,500	1,070,200
Visual Resource Management (VRM) (acres)					
VRM Class I	564,100	564,100	981,900	564,100	564,100
VRM Class II	38,300	56,800	733,900	66,400	513,600
VRM Class III	320,600	1,379,400	213,400	185,900	1,383,900
VRM Class IV	385,700	2,803,000	2,874,100	3,986,900	2,341,700
Undesignated	3,494,900	0	0	0	0
Total	4,803,300	4,803,300	4,803,300	4,803,300	4,803,300
Resource Uses					
Livestock Grazing (acres)					
Available for livestock grazing	4,796,600	4,797,200	2,101,300	4,792,600	4,797,200
Not available for livestock grazing	6,700	6,100	2,702,000	10,700	6,100
Special Recreation Management Areas (SRMAs) (acres)					
Alpine	7,600	5,800	10,700	7,400	7,700
Dead Camel Mountain	N/A	16,800	N/A	37,400	37,400
Hungry Valley	N/A	21,600	N/A	21,800	16,200
Sand Mountain	N/A	7,400	3,900	N/A	19,700

Table ES-2
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Walker Lake	60,100	24,000	60,100	N/A	24,600
Wilson Canyon	N/A	500	N/A	500	520
Total	67,700	76,100	74,700	67,100	106,100
Extensive Recreation Management Areas (ERMAs) (acres)					
Bagley Valley	N/A	N/A	2,600	N/A	2,600
Dry Valley	N/A	N/A	84,100	N/A	83,000
Faye-Luther	N/A	N/A	40	600	110
Middlegate	N/A	268,700	195,300	N/A	268,700
Mina	N/A	824,700	486,400	N/A	824,700
Mustang	N/A	400	400	400	400
Pah Rah	N/A	20,000	20,000	20,000	20,000
Peterson	N/A	N/A	42,200	N/A	42,200
Pine Nut	N/A	201,100	201,100	201,100	201,100
Reno Urban Interface	N/A	70,600	91,000	70,400	70,600
Salt Wells	N/A	292,700	113,700	N/A	280,400
Singatse	N/A	N/A	174,900	N/A	174,900
Virginia Mountains	N/A	N/A	68,100	N/A	68,100
Virginia Range	N/A	N/A	48,800	N/A	48,800
102 Ranch	N/A	120	120	120	120
Total	0	1,678,320	1,528,760	292,620	2,085,730
Comprehensive Travel and Transportation (acres)					
Open to motorized and mechanized travel	3,840,300	95,300	1,300	22,700	55,700
Closed to motorized and mechanized travel	6,900	4,300	598,000	1,600	6,200
Closed to motorized travel (mechanized limited to existing routes)	31,800	26,700	1,190,500	30,600	24,100
Limited to existing routes for motorized and mechanized travel	924,300	4,677,000	3,013,500	4,748,400	4,717,300
Fluid Mineral Leasing (acres)					
Closed to fluid mineral leasing	839,100	768,500	2,081,700	737,000	1,007,200
Open to fluid mineral leasing	3,964,200	4,034,700	2,721,500	4,066,200	3,796,000
Open with no surface occupancy (NSO) stipulations	700	404,600	1,039,200	864,800	935,900
Open with controlled surface use (CSU) stipulations	N/A	2,120,200	1,242,800	2,071,400	1,844,900
Nonenergy Leasable Minerals (acres)					
Closed to nonenergy leasable mineral exploration and development	738,800	981,900	2,960,800	981,900	1,785,900
Open for consideration of nonenergy leasable mineral exploration or development	4,064,500	3,821,300	1,842,400	3,821,300	3,017,400
Locatable Minerals (acres)					
Withdrawn from locatable mineral entry	194,900	194,900	194,900	194,900	194,900
Petitioned for withdrawal from locatable mineral entry	3,700	439,600	117,500	440,800	470,600

Table ES-2
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Mineral Materials (acres)					
Closed to mineral material entry	564,200	807,200	3,004,800	807,700	1,778,700
Open to mineral material entry	4,239,100	3,996,100	1,798,400	3,995,600	3,024,600
Lands and Realty (acres)					
Right-of-way (ROW) exclusion areas	564,100	580,000	2,675,800	564,100	605,900
ROW avoidance areas	N/A	1,195,800	369,300	1,226,100	1,448,200
Identified for disposal	179,700	273,500	0	332,500	267,200
Renewable Energy (Solar and Wind) (acres)					
Variance areas for utility-scale solar (greater than 20 megawatts)	905,900	773,400	578,400	672,100	629,900
Exclusion areas for wind energy development	N/A	N/A	2,073,200	N/A	629,900
Avoidance areas for wind energy development	N/A	1,220,200	0	1,228,100	956,900
Special Designations					
Areas of Critical Environmental Concern (ACECs) (acres)					
Black Mountain/Pistone Archaeological District ACEC (Proposed)	N/A	3,400	3,400	3,100	N/A
Carson Wandering Skipper ACEC (Existing)	330	N/A	330	N/A	N/A
Churchill Narrows Buckwheat Botanical ACEC (Proposed)	N/A	6,600	6,600	6,600	6,600
Clan Alpine Greater Sage-Grouse ACEC (Proposed)	N/A	N/A	98,400	N/A	N/A
Desatoya Greater Sage-Grouse ACEC (Proposed)	N/A	N/A	105,100	N/A	N/A
Dixie Valley Toad ACEC (Proposed)	N/A	N/A	410	N/A	N/A
Fox Peak Cultural ACEC (Proposed)	N/A	48,400	48,400	48,400	49,000
Greater Sand Mountain ACEC (Proposed)	N/A	17,000	17,000	N/A	N/A
Grimes Point Archaeological District ACEC (Proposed)	N/A	15,900	15,900	15,900	2,100
Incandescent Rocks Scenic ACEC (Existing)	1,100	1,100	1,100	1,100	1,100
Lassen Red Rock Scenic ACEC (Proposed)	N/A	N/A	800	N/A	N/A
Namazii Wunu Cultural ACEC (Proposed)	N/A	158,300	158,300	N/A	N/A
Pah Rah High Basin Petroglyph ACEC (Existing)	3,900	5,300	5,300	5,300	5,300
Pine Nut Bi-State Sage-Grouse ACEC (Proposed)	N/A	N/A	100,400	N/A	N/A
Ruhenstroth Paleontological ACEC (Proposed)	N/A	2,300	2,300	2,300	2,300
Pine Nut Mountains Williams Combleaf Botanical ACEC (Proposed)	N/A	N/A	330	330	N/A
Sand Springs Desert Study Area ACEC (Proposed)	N/A	N/A	50	N/A	N/A
Steamboat Buckwheat Botanical (Proposed)	N/A	N/A	80	N/A	N/A
Steamboat Hot Springs Geyser Basin (Existing)	40	N/A	N/A	N/A	N/A
Stewart Valley Paleontological (Existing)	15,900	15,900	15,900	N/A	15,900

Table ES-2
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Tagim aša Cultural ACEC (Proposed)	N/A	81,800	81,800	81,800	N/A
Virginia City National Landmark Historic District (Proposed)	N/A	14,700	14,700	14,700	N/A
Virginia Mountains Greater Sage-Grouse ACEC (Proposed)	N/A	N/A	109,200	N/A	N/A
Virginia Range Williams Combleaf Botanical (Existing)	470	470	470	470	470
Total	21,800	371,170	786,270	180,000	82,770
Wilderness Study Areas (WSAs) (acres)					
Augusta Mountains	46,400	46,400	46,400	46,400	46,400
Burbank Canyons	12,700	12,700	12,700	12,700	12,700
Carson Iceberg	500	500	500	500	500
Clan Alpine	195,700	195,700	195,700	195,700	195,700
Desatoya Mountains	42,200	42,200	42,200	42,200	42,200
Gabbs Valley Range	80,500	80,500	80,500	80,500	80,500
Job Peak	89,400	89,400	89,400	89,400	89,400
Slinkard	2,400	2,400	2,400	2,400	2,400
Stillwater Range	94,200	94,200	94,200	94,200	94,200
Total	564,000	564,000	564,000	564,000	564,000
National Trails on BLM -administered land (miles)					
Pony Express National Historic Trail	92	92	92	92	92
California National Historic Trail	25	25	25	25	25
Eligible or Suitable Wild and Scenic River (WSR) Study Segments (acres crossing BLM-administered land)²					
East Fork Carson River Segment 1	N/A	N/A	400	400	400
East Fork Carson River Segment 2	N/A	N/A	400	400	400
East Fork Carson River Segment 3	N/A	N/A	600	600	600
Total	N/A	N/A	1,400	1,400	1,400
Back Country Wildlife Conservation Areas (acres)					
Gillis West	N/A	N/A	42,500	N/A	N/A
Gillis East	N/A	N/A	63,900	N/A	N/A
Gabbs Valley Range North	N/A	N/A	50,800	N/A	N/A
Gabbs Valley Range South	N/A	N/A	154,400	N/A	N/A
Pilot Mountains	N/A	N/A	93,700	N/A	N/A
Excelsiors	N/A	N/A	125,800	N/A	N/A
Fairview	N/A	N/A	131,400	N/A	N/A
Sand Springs	N/A	N/A	53,700	N/A	N/A
Clan Alpine	N/A	N/A	101,600	N/A	N/A
Total	N/A	N/A	817,800	N/A	N/A
Lands with Wilderness Characteristics (acres)					
Agai Pah Hills	N/A	N/A	27,200	N/A	27,200
Chukar Ridge	N/A	N/A	29,100	N/A	29,100
Excelsior North	N/A	N/A	54,400	N/A	54,400
Excelsior South	N/A	N/A	49,200	N/A	49,200

Table ES-2
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Finger Rock	N/A	N/A	41,500	N/A	N/A
Job South	N/A	N/A	77,400	N/A	77,400
Lyon Peak	N/A	N/A	16,300	N/A	N/A
Monte Cristo North	N/A	N/A	9,800	N/A	N/A
Peterson Mountain	N/A	N/A	16,300	N/A	N/A
Rawe Peak	N/A	N/A	39,800	N/A	39,800
Stillwater Additions	N/A	N/A	19,100	N/A	19,100
Tule Peak	N/A	N/A	36,400	N/A	36,400
Total	N/A	N/A	416,500	N/A	332,600

¹Acres were GIS generated and rounded to the nearest hundred acres. Includes BLM-administered and non-BLM-administered land in the CCD and outside of the CCD where the associations make up larger geographic areas for managing wild horses and burros.

²Alternative A identifies three segments of the East Fork Carson River as eligible for inclusion in the National Wild and Scenic River System (NWSRS) whereas Alternatives C, D, and E would determine these three river segments as suitable for inclusion in the NWSRS. Alternative B would determine that the eligible segments are not suitable for inclusion in the NWSRS and release them from interim management afforded to eligible segments.

ES.9 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

The following alternatives were considered but eliminated from detailed study because they do not meet the purpose of and need for the RMP (see **Section I.1**) or because they do not fall within technical, legal, or policy constraints for BLM resources and resource uses.

Implement Recreation-Centered Alternative

An alternative that proposes to meet increased demand for motorized recreation on BLM-administered lands within the planning area was considered but dismissed from detailed analysis. Because the FLPMA mandates that BLM-administered lands be managed for multiple use and sustained yield, alternatives that promote exclusive use or maximum development, production, or protection of one resource at the expense of other resources or resource uses were eliminated from further consideration.

Each proposed alternative allows for some level of support, protection, or use of all resources in the planning area. In some instances, the alternatives include various considerations for eliminating or maximizing individual resource values or uses in specific areas where conditions warrant. In addition, one of the main considerations for Alternative D is enhanced recreational opportunities within the urban interface area where the majority of the recreation use is occurring in the CCD.

Close Entire Decision Area to Livestock Grazing

The BLM considered but did not analyze in detail an alternative that would make all acres of BLM-administered land in the planning area unavailable for livestock grazing because such an alternative is not reasonable, viable, or necessary in light

of resource conditions and BLM's consideration of a range of alternatives that includes a meaningful reduction in livestock grazing. Livestock grazing is a well-established use within the BLM's multiple-use mandate under the FLPMA and a traditional use of the planning area. The BLM issues and administers grazing leases or permits in the planning area in accordance with the laws applicable to the issuance and administration of such leases and permits on other lands under the jurisdiction of the BLM.

Management of livestock grazing in the RMP, including proposed reductions and closures, were based on criteria developed for each alternative. The criteria outlined include, but are not limited to, allotments not meeting land health standards, allotments containing sage-grouse habitat (when habitat makes up 50 percent or more of the allotment), ACECs, and habitat for threatened and endangered species. Additional criteria were outlined to adjust forage allocations for livestock. Some of these criteria include areas not accessible to livestock, unstable or highly erodible soils, areas more than 2 miles from water, unique habitats such as jurisdictional wetlands and springs, and areas that receive high levels of recreational use.

During this planning process, including public scoping, the BLM did not identify issues or conflicts that can only be resolved through the elimination of all livestock grazing throughout the decision area. Where appropriate, the preclusion or adjustment of livestock use within an allotment or area was incorporated into the alternatives to address issues noted above. This resulted in a reduction in animal unit months (AUMs) and the amount of BLM-administered land available for livestock grazing in all alternatives, with the greatest meaningful reduction in Alternative C.

In all alternatives, the BLM would be able to adjust livestock grazing permits (e.g., AUMs, acres, and period of use) based on monitoring, land health assessments, and Land Health Standards. Permit terms and conditions could also be modified in all alternatives. For these reasons, the no grazing alternative for the entire planning area was dismissed from further consideration.

ES.10 COMPARISON AND SUMMARY OF ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

ES.10.1 Resources

Air

RMP air quality management objectives and actions under all alternatives include maintaining compliance with state and federal requirements and programs. This includes Nevada Bureau of Air Quality Planning rules, which prohibit the use, maintenance, or construction of roadways without taking appropriate dust abatement measures (Nevada Administrative Code 445B.22037); the Smoke Management Memorandum of Agreement, which requires reporting size, date of burn, fuel type, and estimated air emissions for each prescribed burn (USDA, US

DOI, and State of Nevada 2010); and Nevada and California prescribed burn permitting requirements. Alternatives B through E would implement BMPs and mitigation measures on a case-by-case basis to minimize adverse impacts on air quality from BLM and BLM-authorized activities.

Climate

Compared to Alternative A, Alternatives B, C, D, and E would be more proactive in assessing current and potential climate change-induced threats on BLM special status species and ecosystems functions by prioritizing and conserving habitat to ensure adequate conditions. Alternatives B and D would implement adaptive management strategies to maintain ecosystem resiliency where human-caused ecosystem stressors have crossed thresholds, while Alternatives C and E would manage to reduce human-caused ecosystem stressors and promote habitat connectivity and integrity by working cooperatively with multiple agencies and stakeholders to establish and maintain a network of climate monitoring sites and stations.

Soils and Water Resources

Soils

Alternatives C, D, and E would prohibit surface disturbance on slopes greater than 40 percent. Alternative B would require an erosion control strategy. Alternative C provides for improving biological crusts and vegetation and would possibly restrict uses to minimize breaking up or shearing of crusts.

Water Resources

Under all alternatives, water resources would receive various levels of protection due to management in accordance with the Clean Water Act and other applicable state and federal water quality standards. Site-specific mitigation and BMPs for surface-disturbing activities would further reduce impacts on water resources. Alternatives A and B would not manage priority watersheds to include use restrictions that would protect resource values. Alternatives C, D, and E would protect priority watersheds through implementation of use restrictions applicable to certain minerals and rights-of-way. Alternative C would emphasize the most use restrictions by closing priority watersheds to mineral material disposals and nonenergy solid mineral leasing, applying no surface occupancy to fluid mineral leasing, and closing areas to rights-of-way. Alternatives D and E would provide similar protective measures but would allow some uses based on a set of management criteria.

Vegetation

Vegetation – Forest and Woodlands

Alternative B proposes to treat the most acres annually by removing up to 8,500 acres of low density pinyon-juniper and thinning up to 6,500 acres of medium and high density pinyon-juniper. Alternative C would have the fewest acres of pinyon-juniper management, removing up to 3,500 acres of low density

pinyon-juniper and thinning up to 1,500 acres of medium and high density pinyon-juniper. The potential to improve woodland health in the short term would be higher under Alternatives B and E. However, these alternatives would create more disturbances to wildlife habitat.

Vegetation – Rangeland

Alternatives C, D, and E would prioritize vegetative treatment in areas that are in the “at-risk” community phase and have not yet passed an ecological threshold. Treatment would maintain and improve healthy diverse vegetative communities with species appropriate to the site potential, while providing for multiple use and sustained yield. Alternative C would require use of native species for revegetation efforts, which could result in lower revegetation success rates in the short term. Overall rangeland health would improve under these alternatives. Alternative B would focus vegetative treatment in areas that have the greatest potential to produce higher yields. Higher yields would increase potential for livestock forage but may decrease vegetation diversity. Alternatives C, D, and E would promote maintenance of large, intact sagebrush stands to varying degrees, while Alternative B would allow for removal of stands, resulting in fewer large stands and habitat fragmentation within sagebrush vegetation communities.

Vegetation – Restoration and Rehabilitation

Alternative C would focus stabilization and rehabilitation efforts to reestablish high-value wildlife habitat, improving the potential of wildlife habitat recovery. Alternative C would also have lower rehabilitation success potential in the short term, as only native plant species would be used. Alternative D would focus efforts to reestablish vegetation near urban interface areas in order to protect these areas from future wildfire events by using fire-resistant species. The potential for protection of urban interface areas would be improved. Alternative E would serve to protect urban interface areas, while providing wildlife habitat. Rehabilitation success would potentially be higher under this alternative depending on the site and other conditions. Alternative B would focus rehabilitation efforts on preventing the establishment and spread of invasive species. Potential revegetation success in the short term would be the highest under this alternative; however, species diversity may be limited and efforts may not provide for restoration of wildlife habitat.

Vegetation – Riparian Wetlands

Alternatives C, D, and E would improve riparian and wetland lotic and lentic areas (Proper Functioning Condition [PFC] and functioning at risk with an upward trend) to 85 percent to attain PFC over the next 20 years. Riparian areas would improve; however, certain use restrictions would be implemented to reach PFC objectives. Alternative C would propose the most use restrictions. Alternative B would improve riparian and wetland lotic and lentic areas by managing PFC and functioning at risk with an upward trend to 75

percent, progressing towards or attaining PFC. The BLM would implement fewer use restrictions under Alternative B than under Alternatives C, D, and E.

Vegetation – Invasive, Nonnative Species, and Noxious Weeds

All alternatives would coordinate with local governments and weed districts and would utilize multiple control methods to control invasive and noxious species, increasing the potential to improve rangeland health and achieve resource goals and objectives. Alternative C would have more restrictive control measures.

Fish and Wildlife

Alternatives C, D, and E would ensure wildlife habitat would be maintained and improved. Alternative B would focus on maintaining existing wildlife habitat values. Alternatives C and E would also apply a no surface occupancy stipulation for fluid mineral leasing within 500 feet of lentic and lotic habitats occupied by federally listed and BLM sensitive aquatic and semi-aquatic species, increasing the potential to protect these areas. Alternatives B and D would apply a controlled surface use stipulation for fluid mineral leasing within 500 feet of lentic and lotic habitats occupied by federally listed aquatic and semi-aquatic species. Alternatives B and D would provide a lower degree of protection but would allow flexibility for fluid minerals leasing. Alternatives B, D, and E would manage fish and wildlife priority habitat as rights-of-way avoidance areas, while Alternative C would manage priority habitat as exclusion areas, affording a higher degree of protection of resource values by precluding rights-of-way development.

Special Status Species

Alternatives B, C, D, and E would protect special status species and their habitat to varying degrees by implementing use restrictions, seasonal restrictions, and buffer zones, and by designating ACECs specifically for protection of special status species habitat. Alternatives B and D propose three ACECs, Alternative C proposes five ACECs and Alternative E proposes two ACECs. Special status species and related habitat would receive the highest degree of protection under Alternative C due to more stringent use restrictions. Alternative B would provide the fewest protections as compared to the other alternatives.

Wild Horses and Burros

Each alternative would manage differing acreages as herd areas and herd management areas. Alternative A would manage 1,235,200 acres, the highest number of acres. Alternatives B and D would manage 996,500 acres, the lowest number of acres. Alternatives C and D would manage 1,090,000 and 1,070,200 acres, respectively. The number HMAs is reduced under all alternatives compared to Alternative A.

Wildland Fire Ecology and Management

All alternatives propose to conduct fire management actions in a manner that is consistent with the primary objective of firefighter and public safety, regardless of whether they are related to fire suppression, fuels treatment, community

education and assistance, or emergency stabilization and rehabilitation. Alternatives B and D would apply a full range of fire management activities as outlined in the fire management plan, and options would be utilized to protect all identified values at risk. Alternative C proposes minimum impact suppression tactics such that the environmental impacts of emergency fire management methods would be no greater than necessary to meet fire management objectives. Alternative E would be similar to Alternatives B and D; however, values at risk would also include efforts to sustain healthy ecosystems within acceptable risk levels. The potential for wildland fire spread and loss of resource values would be lower under Alternatives B, D, and E.

Cultural Resources

Alternatives B and D would protect cultural and historic values of rock art sites within 0.125 mile by prohibiting surface disturbance and visual intrusions that adversely affect values through the evaluation of eligibility for the National Register of Historic Places. Alternative E would protect these areas with a 0.5 mile buffer, while Alternative C would protect these areas within 1 mile. Prohibiting disturbance would limit the potential for uses on public lands within these distances. Alternatives B, D, and E would protect National Register-listed properties and districts, National Historic Landmarks, and Traditional Cultural Properties that are listed, eligible, or known but not yet formally designated for the National Register as right-of-way avoidance areas. Alternative C would manage these areas as right-of-way exclusion areas. Alternative A proposes one cultural ACEC, Alternative B proposes eight cultural ACECs, Alternative C proposes nine cultural ACECs, Alternative D proposes six cultural ACECs, and Alternative E proposes three cultural ACECs. All ACECs would be managed with varying degrees of use restrictions.

Paleontological Resources

All action alternatives would manage paleontological resources to prioritize research needs, facilitate educational needs, and protect significant sites through designation of ACECs. Alternatives A and D propose one ACEC, while the other alternatives propose two ACECs to protect paleontological resources. Resource uses would be restricted within designated ACECs.

Visual Resources

Alternative C would have the most acres managed as VRM Classes I and II. These areas would have a greater number of use restrictions applied to achieve VRM objectives. Alternative D would propose the most acres under VRM Class IV; this alternative would have the fewest use restrictions, resulting in the potential for more intrusions within landscape settings.

Lands with Wilderness Characteristics

Actions for managing areas identified as having lands with wilderness characteristics apply under Alternatives C and E only. The BLM would manage 416,500 acres within 12 inventoried units specifically for wilderness

characteristics under Alternative C and 332,600 acres within 8 inventoried units under Alternative E. Under Alternatives C and E, the actions outlined for management of these areas would provide protection for the indicators of wilderness characteristics by limiting or closing activities and development within these areas.

Cave and Cave Resources

Alternatives C, D, and E would protect culturally significant caves by implementing fuel treatment programs. Alternatives A and B propose fewer protective measures, making culturally significant caves more vulnerable to wildfire.

ES.10.2 Resource Uses

Livestock Grazing

Alternative C proposes the highest number of acres (2,702,000) as not available for livestock grazing. Alternatives B and E each propose 6,100 acres as not available. Rangeland not available for grazing would reduce the income potential and increase operational costs to livestock producers. Other impacts on grazing would include loss of forage from wildfire, wild horse and burro management, and surface disturbance from minerals and energy development. Emergency stabilization and rehabilitation efforts following wildfires would close burned areas to livestock grazing while seeding and/or natural vegetation recovery of areas burned become established.

Geology and Minerals

Locatable Minerals

All alternatives propose 194,900 acres as withdrawn from locatable mineral entry. Alternative C proposes to petition 117,500 acres for withdrawal from locatable mineral entry. Alternative E proposes to petition 470,600 acres for withdrawal from locatable mineral entry. Areas withdrawn from locatable mineral entry would not be available for locatable exploration and development. Acres proposed for petition are in addition to currently withdrawn lands.

Nonenergy Leasable Minerals

Alternative C proposes 2,960,800 acres be managed as closed to nonenergy leasable exploration and development and is, therefore, the most restrictive for development of nonenergy leasable minerals. Alternative E proposes the second highest number of acres (1,785,900 acres) be managed as closed to nonenergy leasable exploration and development.

Leasable (Fluid Minerals)

Alternative D proposes the highest number of acres (4,066,200 acres) be managed as open to fluid mineral leasing, representing the highest number of acres available as open. Alternative B proposes the second highest acreage (4,034,700 acres) be managed as open. Alternative C would close 2,081,700

acres to fluid mineral leasing to protect resource values, and Alternative E would close 1,007,200 acres

Mineral Materials

Alternatives A, B, and D propose the highest number of acres as available for mineral entry (4,239,100 acres, 3,996,100 acres, and 3,995,600 acres, respectively). Proposed closed areas are highest under Alternatives C and E (3,004,800 acres and 1,778,700 acres, respectively). Alternative C would be the most restrictive for mineral material development.

Recreation and Visitor Services

Maintaining existing and designating new Special Recreation Management Areas (SRMAs) would protect recreation resources and would encourage appropriate recreation use in these areas. Alternatives A and D propose the lowest acreage for designation as SRMAs. Recreational experiences and opportunities would be more limited in these areas. Alternative E proposes the highest number of acres as SRMAs and the most areas to be designated as SRMAs. Alternative E also proposes the highest number of acres to be managed as Extensive Recreation Management Areas (ERMAs) and the most areas to be designated as ERMAs. Recreation user experiences would potentially increase under this alternative.

Comprehensive Travel and Transportation Management

Motorized and mechanized travel use would be open on the greatest number of acres (3,840,300) under Alternative A. More areas would be available to unrestricted travel under this alternative, resulting in more surface disturbance and resource damage. Alternative C would close the highest number of acres (598,000) to motorized and mechanized use in order to protect resource values. Under Alternatives B through D, the majority of the planning area is proposed to be managed as limited to existing routes for motorized and mechanized travel. Alternatives D and E propose 4,748,400 and 4,717,300 acres, respectively, to be managed as limited to existing routes for motorized and mechanized travel.

Lands and Realty

Alternative C proposes the highest acreage as right-of-way exclusion areas (2,675,800 acres) followed by Alternative E (605,900 acres). Alternatives A, B, and D propose a similar number of acres delineated as exclusion areas; rights-of-way would not be allowed in these areas. Alternative E proposes the highest number of avoidance acres (1,448,200 acres), followed by Alternatives D and B. The lands identified for disposal are similar under alternatives and range from 179,700 acres under Alternative A to 332,500 acres under Alternative D (except for Alternative C where no lands are identified for disposal).

Renewable Energy

Alternative A identifies 905,900 acres as variance areas for utility-scale (greater than 20 megawatts) solar development, followed by Alternative B with 773,400 acres identified. Alternative C represents the lowest number of acres (578,400)

as solar variances areas. Alternatives A, B, and D propose no wind energy exclusion areas, while Alternatives C and E propose 2,073,200 acres and 629,000 acres, respectively, as exclusion areas. Alternatives B and D propose similar acreages (1,220,200 and 1,228,100, respectively) as avoidance areas for wind energy development. Alternative E proposes the fewest acres as avoidance areas (956,900 acres).

ES.10.3 Special Designations

Areas of Critical Environmental Concern

In general, alternatives that propose a higher number of ACECs or ACEC acreage would provide more protection of resource values within these areas. Nevertheless, management restrictions vary for each ACEC and each alternative, and protections may already be in place (e.g., Endangered Species Act) to protect a sensitive resource so the number of ACECs or number of acres managed as ACECs may not convey the actual level of protection. Alternative A proposes 5 ACECs and 21,800 acres for ACEC designation, which is the fewest number and lowest acreage of all alternatives. Alternative C proposes 23 ACECs and 786,270 acres, followed by Alternative B with 13 ACECs and 371,170 acres. Alternative C proposes the greatest number of ACECs and the most restrictions on uses within the ACECs. Therefore, Alternative C provides the highest level of protection of resource values. Alternatives D and E offer an intermediate level of protection of resources.

Back Country Byways

Alternatives B, D, and E would modify the designation of the Fort Churchill Back Country Byway, while Alternative C would rescind the designation. Alternatives B, C, and E propose to designate the Marietta Back Country Byway and the New Pass to Hawthorne Back Country Byway; however, Alternative C would focus management to maintain natural settings for visitor viewing, while the other alternatives would include historical uses.

National Trails

All alternatives would protect National Historic and Recreation Trails. Alternatives B and D would manage National Historic Trails utilizing a National Historic Trail management corridor of 0.25 miles from the center line of the trail. Alternative C proposes a 2.5-mile management corridor, while Alternative E proposes a 1-mile management corridor. Potential impacts on the trail setting would be higher under Alternatives B and D as compared to Alternatives C and E. The National Historic Trail corridor would be open to mineral material sales under Alternatives B and D and closed under Alternative C. Alternative E would close high potential historic sites and high potential route segments to mineral material sales. Alternatives B and D would have a higher potential for disturbance to National Historic Trails compared to other alternatives. The BLM will maintain a list of trails that have been authorized by Congress which

are under study and trails that have undergone the study process and are either recommended as suitable or not suitable.

Wild and Scenic Rivers

Alternatives C, D, and E would manage identified Wild and Scenic River segments to preserve and enhance outstandingly remarkable values as suitable for Congressional designation as part of the National Wild and Scenic River System. Use restrictions would be implemented to preserve outstandingly remarkable values. Alternative B would identify segments as not suitable and would allow for more multiple use and sustained yield.

Wilderness Study Areas

Management of all nine designated WSAs would be the same under all alternatives. Wilderness values would be protected in accordance to the BLM wilderness policy and handbook.

Back Country Wildlife Conservation Areas

Alternative C would delineate nine areas totaling 817,800 acres as Back Country Wildlife Conservation Areas to provide for high quality fish and wildlife habitat or for significant recreational opportunities, such as hunting and fishing. Proposed management would include safeguarding fish and wildlife habitat. Proposed management under Alternative C would include restricting livestock grazing to prescriptive grazing and closing delineated areas to mineral materials and non-energy mineral leasing, as well as applying no surface occupancy restrictions for fluid minerals. Back Country Wildlife Conservation Areas are not proposed under any other alternatives.

ES.10.4 Social and Economic Features

Tribal Interests

All alternatives propose actions that ensure tribal issues and concerns are given consideration and that continue the BLM's ongoing working relationship with Native American tribes. All alternatives contain actions that would protect cultural properties, places, or objects important to the tribes to the degree possible under law, regulations, and guidance. Alternatives C and E would evaluate areas that qualify as Traditional Cultural Properties and nominate National Register of Historic Places-eligible properties. Alternative D would be similar to Alternatives C and E but would only evaluate areas within the urban interface area. Alternative B would not evaluate areas to determine if they qualify as Traditional Cultural Properties. Protection of Native American values would be higher under Alternatives C and E.

Social and Economic Conditions

Alternative A would maintain current management practices and would not induce new changes to socioeconomic indicators. Actions proposed under Alternative B would promote the use of public lands by proposing fewer use restrictions, special stipulations, and exclusion or closed areas. Alternative B

would provide the highest potential and opportunity for economic development. Alternative C would include the most use restrictions to protect sensitive resources, which would limit economic growth and development. Alternatives D and E would provide a mix of management strategies in order to provide for multiple use and sustained yield while protecting important resource values. Potential for economic development and improved socioeconomic health under these alternatives would be higher than Alternative C but would not be as robust as Alternative B.

Public Health and Safety

All alternatives would protect public safety by providing public safety information, signage, and protection from unexploded ordnance, and by working with the Abandoned Mine Land program and the Nevada Division of Minerals. All alternatives would also prohibit the discharge of firearms at the American Flat Mill, Pine Nut Road #2, and Moonrocks.

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Chapter I

Introduction

CHAPTER I

INTRODUCTION

The United States (US) Department of the Interior (DOI), Bureau of Land Management (BLM) has prepared this draft resource management plan (RMP) and environmental impact statement (EIS). This document provides:

- Consolidated direction for managing public lands under the jurisdiction of the BLM Carson City District (CCD)
- Analysis of the environmental effects that could result from the implementation of the alternatives addressed in the RMP

The new RMP will replace the Carson City Field Office Consolidated RMP (BLM 2001c), including amendments.

In accordance with the Federal Land Policy and Management Act (FLPMA) of 1976 (43 US Code [USC] 1701 et seq.) and BLM Land Use Planning Handbook, H-1601-1 (BLM 2005a), this RMP provides planning-level guidance for the management of resources and designation of uses on BLM-administered lands. The RMP was developed in coordination with federal, state, and local governments, Native American tribes, and interested members of the public. Rather than providing entirely new management direction, this RMP carries forward existing management strategies where appropriate while incorporating updated information and regulatory guidance made available since the adoption of the previous RMP. New management direction in the RMP also addresses land use issues and conflicts that have emerged since the previous RMPs were adopted.

The EIS incorporated as part of this document meets the requirements of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ 1978) regulations for implementing the NEPA (40 Code of Federal Regulations [CFR] 1500-1508), the BLM's Land Use Planning Handbook, H-

1601-I (BLM 2005a), and the requirements of the BLM's NEPA Handbook, H-1790-I (BLM 2008a).

I.1 PURPOSE AND NEED FOR THE RESOURCE MANAGEMENT PLAN

According to the FLPMA, the BLM shall “develop, maintain, and, when appropriate, revise land use plans” (43 USC 1712 [a]). Accordingly, the purpose of this RMP is to ensure that BLM-administered lands in the planning area are managed in accordance with the multiple use and sustained yield principles mandated by the FLPMA. With the support of new data, this RMP provides planning-level management strategies that are expressed in the form of goals, objectives, allowable uses, and management actions necessary to achieve the preferred conditions for resources and resource uses. The RMP neither prioritizes certain projects, nor describes how particular programs would be implemented; rather, those decisions are deferred to more detailed implementation-level planning.

The need for the RMP is to address policies and resource issues that have arisen since the adoption of the previous RMP. Issues prompting the need for this RMP include the following:

- Management of energy resources, including renewable resources such as geothermal, wind, and solar
- Management of resources for which there is a high demand but limited supply
- Management for the protection of sensitive resources
- Management of increased conflicts between competing resource values and land uses, particularly as a result of increased off-highway vehicle (OHV) use
- Management of the urban interface in light of expanding urban areas throughout the planning area

The BLM prepared this document using a collaborative planning process, which included an interdisciplinary approach for fulfilling the need for new planning data. The BLM prepared the following plans, studies, and reports to support this RMP:

- CCD RMP/EIS Preparation Plan (March 2012)
- CCD RMP/EIS Collaboration and Communication Plan (May 2012)
- Scoping Summary Report (December 2012)
- Travel Management Workshop Report (January 2013)
- Socioeconomic Baseline Report (January 2013)
- Socioeconomic Report and Addendum (February 2013)

- Wild and Scenic River Eligibility Report (February 2013)
- Areas of Critical Environmental Concern Report (March 2013)
- Analysis of the Management Situation (April 2013)
- Lands with Wilderness Characteristics Report (July 2014)
- Mineral Potential Report (June 2013)
- Foreseeable Development Scenario for Solar, Wind, and Biomass (RFD) Report (June 2013)
- Air Analysis Framework Report (June 2013)
- Cultural Overview/Synthesis Report completed (Draft April 2014)
- Ethnographic Report (December 2013)

As new policy requirements, planning issues, and scientific information emerge over time, the BLM may review the RMP and consider the need for updated management prescriptions and resource allocations. Per CFR Regulations 43 CFR 1610.4-9, the BLM is required to monitor and evaluate land use plans (LUPs) such as RMPs. Evaluation is the process that determined if LUP decisions remain relevant, effective, need revision, be dropped or require new decisions. The LUP evaluation process is described in H-1601.1. The BLM may only change adopted LUP decisions through the amendment or revision process, which includes adherence to the environmental review requirements under NEPA.

I.2 DESCRIPTION OF THE PLANNING AREA

The CCD planning area is comprised of approximately 9 million acres of public and private lands in Carson City, Churchill, Douglas, Lyon, Mineral, Nye, Storey, and Washoe Counties in western Nevada and portions of Alpine, Lassen, and Plumas Counties in eastern California. The BLM administers nearly half of the land (4.8 million acres) in the planning area. The remaining area is composed of US Department of Agriculture (USDA), Forest Service (Forest Service); Bureau of Reclamation (Reclamation); Department of Energy (US DOE); Department of Defense (US DOD); State of Nevada; State of California; private lands; and tribal lands governed by sovereign Native American tribes in consultation with the Bureau of Indian Affairs (BIA). See **Figure I-1**, Carson City District RMP Planning Area, and **Table I-1**, Land status within the Carson City District RMP Planning Area.

Management direction and actions provided in the RMP apply only to the decision area, which is comprised of BLM-administered surface lands in the planning area and federal mineral estate lying beneath other surface ownership but administered by the BLM (split estate). A split estate can be either federal surface/private minerals or private surface/federal minerals. Where the BLM manages the surface, BLM authority extends beyond mineral exploration and

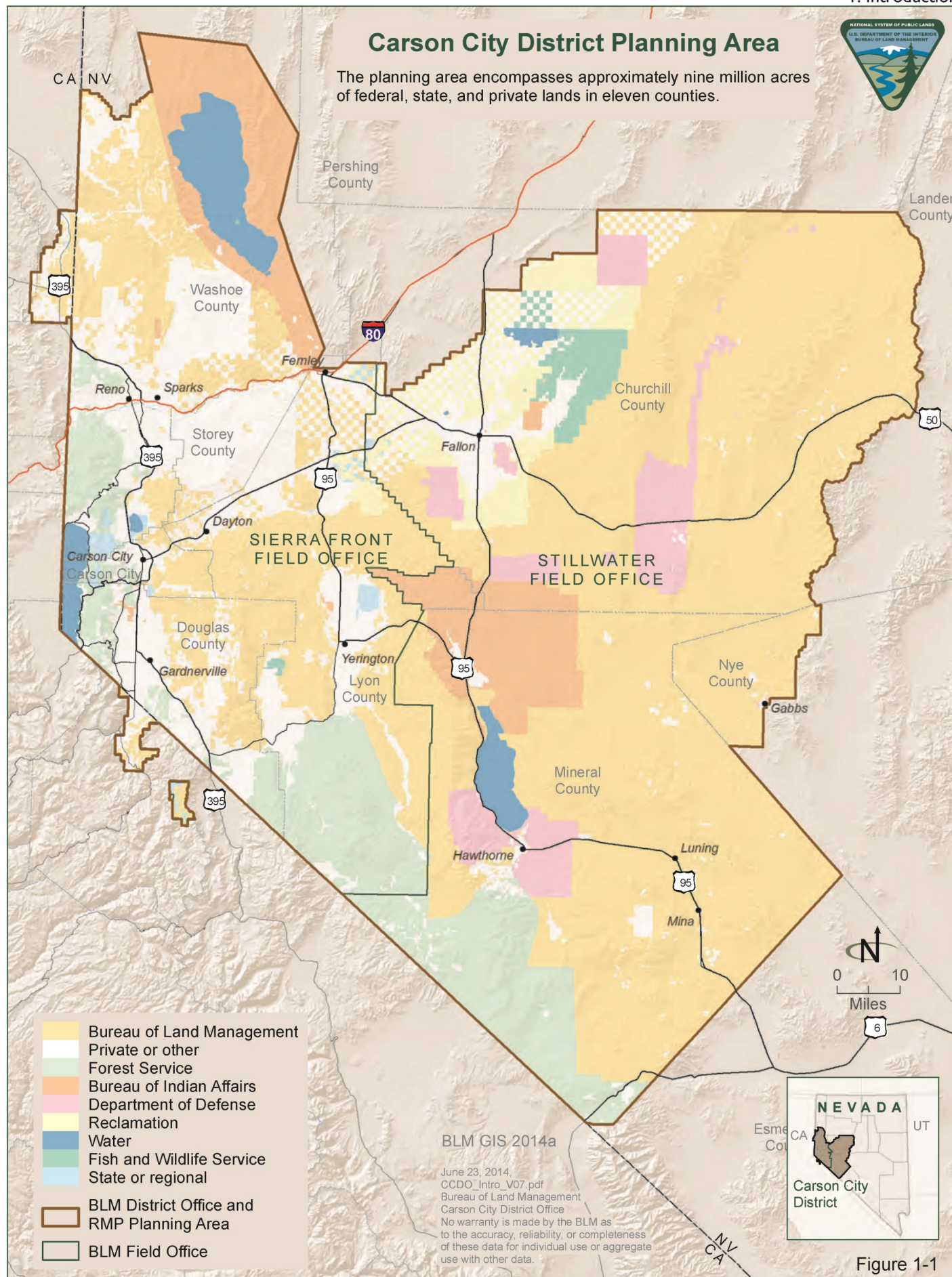


Table I-1
Land Status within the Carson City District RMP
Planning Area

Agency	Acres
Bureau of Land Management	4,803,300
Forest Service (Nevada and California)	866,900
Bureau of Reclamation	304,000
Bureau of Indian Affairs	653,900
US Fish and Wildlife Service	103,900
Department of Defense	360,100
State of Nevada (including Nevada Department of Wildlife)	24,200
State of California	2,300
Private	1,507,900
Other (local, regional, water bodies)	312,600
<i>Total</i>	<i>8,939,100</i>

Source: BLM GIS 2014a

development and includes other efforts, such as travel and wildlife management. When it comes to BLM-administered surface and private minerals, the BLM has limited authority over public access for mineral exploration and development. On split estates where the surface is managed by another federal agency, the agency managing the surface establishes the mineral leasing requirements, which the BLM subsequently adopts.

I.3 PLANNING PROCESS

The planning process consists of developing, approving, maintaining, and amending or revising an RMP. The BLM carries out this process under the authority of Section 202(f) of the FLMPA and Section 202(c) of the NEPA. The process, which includes a land use planning tier and implementation tier, follows BLM planning regulations codified in 43 CFR 1600 and the CEQ regulations codified in 40 CFR 1500.

Land use planning decisions consist of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allowable uses and management actions necessary for achieving the goals and objectives. These critical determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while sustaining land health. Adaptive management may result in adjustments of goals, objectives, management area prescriptions, standards and guidelines constraining land uses. This process is discussed in more detail in **Section 1.8.4**, Adaptive Management and Regional Mitigation Strategies. The BLM may also establish criteria in the land use plan to guide the identification of site-specific use levels for activities during plan implementation.

In the land use planning tier, the BLM develops and maintains the RMP, which will guide BLM management decisions for BLM-administered lands in the CCD planning area. Subsequent site-specific management decisions require implementation plan decisions at a smaller geographic scale. Accordingly, the implementation tier consists of the more detailed activity or implementation-level planning that takes place as part of the BLM's daily operations. Activity planning can include the development of recreation management plans, allotment management plans (AMPs), and the implementation of other similar plans that authorize, limit, or restrict the use of resources on BLM-administered lands. Implementation planning requires public outreach and NEPA compliance. Unlike LUP decisions, implementation decisions are not subject to protest under the planning regulations. Instead, implementation decisions are subject to various administrative remedies, particularly appeals to the Interior Board of Land Appeals. The Proposed RMP/Final EIS will outline LUP and implementation decisions, if necessary (and clearly distinguish between the two types of decisions).

In preparing this RMP, the BLM will follow a standardized process. See **Table I-2, BLM Planning Process**. As part of the planning process, the BLM will sequentially publish three documents for the CCD: a draft RMP/EIS, a proposed RMP/final EIS, and the approved RMP/Record of Decision (ROD). Based on input from public outreach, federal, state, local agencies and tribes, cooperating agencies, and other stake holders, the approved RMP/ROD will incorporate the following major components:

- Resource conditions goals and objectives
- Range of alternatives for allowable resource uses, including desired levels of resource production or use to be maintained
- Range of alternatives for prescriptions for the management of resources and resource uses
- Range of alternatives for land areas to be managed for limited, restricted, or exclusive resource uses
- Range of alternatives for land areas to be transferred to or from BLM administration
- Management program constraints, general practices, and protocols
- General implementation schedule
- Expectations and intervals for reviewing the RMP

**Table I-2
BLM Planning Process**

BLM Planning Process Step	Description	Timeframe
Step 1—Identify planning issues	Issues and concerns are identified through a scoping process that includes the public, Native American tribes, other federal agencies, state and local governments, and internal BLM staff.	Scoping February 2012 to December 2012
Step 2—Develop planning criteria	Planning criteria are created to ensure decisions are made to address the issues pertinent to the planning effort. Planning criteria are derived from a variety of sources, including applicable laws and regulations, existing management plans, coordinating other agencies' programs, and the results of public and agency scoping. The planning criteria may be updated and changed as planning proceeds.	Ongoing
Step 3—Collect data and information	Data and information for the resources in the planning area are collected based on the planning criteria.	Ongoing
Step 4—Analyze management situation	The current management of resources in the planning area is assessed.	Spring 2013
Step 5—Formulate alternatives	A range of reasonable management alternatives is developed to address issues identified during scoping.	January 2013 to February 2014
Step 6—Assess alternatives	The effects of each alternative are estimated.	Winter/Spring 2014
Step 7—Select preferred alternative	The alternative that best resolves planning issues is identified as the preferred alternative.	Spring 2014
Step 8—Select RMP	First, a draft RMP/EIS is issued and is made available to the public for a review period of 90 days. After comments to the draft document have been received and analyzed, the RMP/EIS is modified as necessary, and the proposed RMP/final EIS is published and made available for public review for 30 days. A ROD is signed to approve the RMP/EIS.	Draft RMP/EIS: estimated October 2014 Proposed RMP/Final EIS: estimated September 2015 Approved RMP/ROD: estimated May 2016
Step 9—Implementation Monitoring	Management measures outlined in the approved plan are implemented on the ground, and future monitoring is conducted to test their effectiveness. Changes are made as necessary to achieve desired results.	Ongoing after RMP approval

I.4 SCOPING AND PLANNING ISSUES

After identifying the need to prepare the RMP, the BLM initiated a scoping and issue identification process. Public involvement in the RMP process allows the public to provide input into the decisions that will ultimately guide BLM management of public lands. Public involvement is a requirement of NEPA (40 CFR 1506.6), which states that federal agencies must make a diligent effort to involve the public in the NEPA process. The FLPMA, under Section 202, further

directs the Secretary of the Interior to establish procedures for public involvement during land use planning actions on public lands. As part of this process, the BLM has included the public at regular intervals. The public will also have the opportunity to review and comment on the draft EIS and final EIS. Public involvement during the CCD RMP process includes the following:

- Public scoping to determine the scope of the issues and possible alternative management actions to be addressed in the RMP/EIS
- Public outreach via the CCD website, mailings, and press releases
- Outreach to local stakeholders via public presentations
- Collaboration with federal, state, local and tribal governments and the Sierra Front-Northwestern Great Basin Resource Advisory Council (RAC)
- Public comment periods for public review and comment on the draft RMP/EIS

The BLM completed the public scoping process, which is described in **Section 1.4.1, Public Scoping**. Public outreach via the website and other means will be ongoing through the adoption of the approved RMP/ROD. The BLM maintains an up-to-date RMP website with information about the RMP/EIS process and status at: http://www.blm.gov/nv/st/en/fo/carson_city_field.html.

1.4.1 Scoping Process

Public outreach for the CCD RMP/EIS during the public scoping period has included:

- A postcard mailed in February 2012 to over 630 agency officials, organizations, and members of the public
- 6 scoping open houses in March 2012 in Fallon, Yerington, Hawthorne, Minden, Reno, and Carson City, Nevada
- Notices published in newspapers
- A public website that provided access to materials distributed at scoping meetings as well as information on the public involvement process (http://www.blm.gov/nv/st/en/fo/carson_city_field.html)

The formal public comment period as required by the NEPA began on February 24, 2012, with the publication of a Notice of Intent in the *Federal Register* and ended on April 29, 2012. A project update was posted to the RMP website and mailed in postcard format to the project mailing list in July 2013.

1.4.2 Issue Identification

As shown above in **Table 1-2, BLM Planning Process**, the identification of planning issues is the first step in the RMP process. Planning issues are typically concerns or disputes regarding BLM management of resources or uses that

require some form of resolution. Issues and possible resolutions must be within BLM authority to resolve.

The BLM took the first step in the issue-identification process when it released both the CCD RMP Preparation Plan (March 2013) and the CCD RMP Collaboration and Communication Plan (May 2012). Collectively, the plans identify anticipated planning issues and management concerns, provide strategies for communicating with the public and other agencies, list preliminary planning criteria, identify available data and GIS needs, develop a format and process for the plan, list the participants in the process, and provide the expected schedule and budget.

The preparation plan initially identified 23 anticipated planning issues. Based on the comments received during the public scoping process, 4 additional issue categories were added for a total of 27 planning issues. The BLM used the planning issue categories to help guide the development of a reasonable range of alternative management strategies for the RMP. Section 3 of the Carson City RMP/EIS Scoping Summary Report lists the 27 preliminary issues categories and includes a series of questions under each along with a summary of the public comments received. The Carson City RMP/EIS Scoping Summary Report contains the individual comments organized by issue category. Nearly 25 percent of all planning issue comments received were for wild horses and burros, with another 20 percent for recreation and visitor services. Other anticipated planning issues, such as environmental justice and sustainable development, received no comments. The questions and comments will be addressed to the fullest extent possible through the RMP process.

The BLM received 291 unique written submissions (referred to as comment letters or letters throughout this report) yielding 1,692 discrete comments. In addition, 6 different form letters with a total of 3,543 submissions were received during the public scoping period. Comments were entered into a database, categorized, coded, tallied, and analyzed. Categories included RMP process categories, planning issues, and commenter affiliation. Members of the general public submitted 250 comment letters (88 percent of the total) during the scoping period, organizations or non-profit groups submitted 24 comment letters (8.4 percent of the total), and businesses submitted 4 comment letters (1 percent of the total). Federal agencies submitted 1 comment letter (less than 1 percent of the total), state agencies submitted 3 comment letters (1 percent of the total), and local governmental agencies submitted 2 comment letters (less than 1 percent of the total); comments letters received from government agencies accounted for 2.5 percent of the total letters submitted. One comment letter (less than 1 percent of the total) was received from a tribal representative.

Based on internal (within the CCD) and external scoping, the following planning issues have been identified. Comments received were classified into the planning issues below and into subcategories for each issue.

Issue No. 1: Restoring Ecological Health

- What areas should BLM prioritize for restoration activities?
- Under what conditions should the BLM use non-native plants in place of native plants for restoration activities?
- What descriptions should be developed for Desired Plant Communities?
- What criteria should the BLM use to apportion the forage allocated among wildlife, livestock, and wild horses and burros?
- How will the BLM manage areas occupied by invasive species to prevent their dominance and provide for desired plant communities?
- What areas should the BLM prioritize for wetlands and riparian management?
- What criteria will be used to prescribe management actions in wetland and riparian areas?

Issue No. 2: Air and Atmospheric Values

- How will the BLM address air quality in nonattainment areas?
- How will the BLM address the effects climate change has on the natural resources?

Issue No. 3: Water

- How will the BLM protect, maintain, or enhance water quality and quantity?
- How will the BLM manage public lands to protect class waters and water bodies with state water quality standards?
- How will the BLM manage water rights?

Issue No. 4: Cultural Resources, Native American Concerns and Paleontology

- How will the BLM develop and manage baseline information for cultural resources, Native American traditional use areas, and paleontological resources?
- How will the BLM ensure management of cultural and paleontological resources for present and future generations in ways consistent with their scientific, educational, recreational, and traditional uses?
- How should cultural and paleontological sites, especially those open to interpretation and recreation, be monitored, preserved and protected?

- How will the BLM ensure tribal access to natural and traditional resources?

Issue No. 5: Visual Resource Management

- Based on a Visual Resource Management inventory and management considerations for public land uses and allocations (e.g. renewable energy considerations), how should Visual Resource Management classes be established?
- What are current and potential conflicts with managing Visual Resource Management values, and how can they be mitigated?

Issue No. 6: Special Status Species (includes Threatened, Endangered and Sensitive Status Species)

- How will the BLM manage habitat of Special Status Species found on public lands to ensure the continued existence of these species, including development of guidance criteria for habitat and species protection?
- What areas should be identified as important habitat for Special Status Species?
- Is the current Carson wandering skipper ACEC boundary appropriate?
- Should the RMP identify a new Carson wandering skipper ACEC in the Hot Springs Mountain area?
- How should the BLM manage historic Lahontan Cutthroat Trout streams that are not identified in the 1995 Lahontan Cutthroat Trout Recovery Plan?

Issue No. 7: Fish and Wildlife

- What are the criteria to be used in considering historical bighorn sheep areas for reintroductions and management?
- Fish and wildlife are considered a major use in FLPMA; how will fish and wildlife be proactively managed?
- How will the BLM address wildlife species that pioneer into new areas?
- When would and which criteria would be used by the BLM to authorize introductions, reintroductions, or augmentations of wildlife and plant species?
- Should the BLM continue to allow domestic sheep grazing in areas of historic or high potential bighorn sheep habitat?
- How will bat species and land use conflicts be managed?
- Should some or all streams capable or historically capable of supporting a fishery be managed primarily for that purpose?

- How should riparian and wetland areas be managed to maintain or enhance resource and habitat values in systems containing native fishes and/or introduced sport fishes and other aquatic species?
- How will the BLM implement the State of Nevada Wildlife Action Plan?
- Which existing planning decisions for fish, wildlife and plants should be carried forward into the new RMP?
- What measureable goals and objectives for priority wildlife, fish and rare plant species should be developed for the planning area?
- How will the new RMP establish consistent treatment of migratory birds with national and regional goals and objectives?

Issue No. 8: Wild Horses and Burros

- Should Herd Management Area boundaries be adjusted, combined, returned to Herd Area status and no longer managed for wild horse and burro maintenance?
- Which Herd Management Areas are suitable for the long-term management of wild horses and burros?
- What criteria should be used to make habitat and population suitability and viability determinations?
- What methods, other than removal through gathers, should be considered to achieve and maintain Appropriate Management Levels?
- Where are habitat improvement projects appropriate? What kinds of improvement projects are feasible? When is it appropriate to develop or augment water for wild horses and burros within Herd Management Areas?
- How should BLM address wild horse and burro urban interface issues?

Issue No. 9: Fire Management

- What is the Appropriate Management Response for all public lands and adjacent areas of the CCD with respect to resource protection and protection of life and property?
- Which areas of the CCD should be identified for managing naturally caused fire to meet resource objectives?
- What damages to or impacts on resources may result from fire suppression activities?

Issue No. 10: Livestock Grazing

- How will the BLM determine which areas are and are not available for livestock grazing?

- For areas that are deemed available to livestock grazing, which livestock grazing management practices will be used to maintain and make progress towards achieving rangeland health standards?
- How will vacant allotments be managed?
- What criteria will be used to determine if livestock grazing is appropriate for newly acquired lands?
- What management objectives should the BLM use to determine if forage for livestock is annually or seasonally available for non-renewable use permitting?
- What criteria should the BLM use to determine if a request for temporary change to the terms and conditions of a preference-based permit has merit?
- What considerations should the BLM take into account when evaluating a proposal to change the kind of livestock authorized to graze an allotment from cattle to sheep or vice versa?
- What criteria should the BLM use to determine appropriate triggers and end-point indicators for incorporation into the terms and conditions of grazing permits?
- How will BLM manage livestock grazing if invasive plant species or noxious weeds are present?
- How will BLM address grazing management needs that involve lands administered by more than one field office?
- What management criteria should the BLM develop to resolve use conflicts (e.g. urban interface)?

Issue No. 11: Recreation and Visitor Services

- Which Recreation Opportunity Spectrum classes should be identified for the District?
- Which areas will be identified as Special Recreation Management Areas (SRMAs)? Are there areas that should be specified for more intensive management?
- What are the recreation management objectives for the specific recreation opportunities to be produced and the outcomes to be attained (activities, experiences and benefits)?
- What are the recreation setting character conditions required to produce recreation opportunities?
- What are the recreation objectives for the Extensive Recreation Management Areas (ERMAs)?
- Should new recreation facilities be developed?

- Should areas be designated for specific recreation use (e.g. paragliding, recreational shooting areas and windsailing) and what criteria would be employed?
- How can historic linear features (trails, historically significant roads, railroad grades, etc.) be developed and maintained for recreational use while retaining the historical value of the features?
- What is the impact of recreational use in urban interface areas?
- What level of public awareness and education should be promoted for recreational opportunities?
- How should the BLM address threshold levels and locations for recreation activities?

Issue No. 12: Lands and Realty

- Which existing withdrawals should be continued, modified, or revoked? How would lands be managed if an existing withdraw terminates?
- Which lands should be withdrawn from operation of the public land laws (e.g. saleable, locatable and leasable minerals)?
- Should the existing utility and ROW corridors be revised to provide for anticipated future needs? If so, what changes are needed?
- Which areas, if any, should be identified for potential new communication site locations, renewable energy projects or other uses?
- What criteria will the BLM use to identify ROW avoidance and/or exclusion areas?
- Are there areas that should be designated for ROW avoidance and/or exclusion areas?
- What criteria will the BLM use to identify lands or interest in lands for acquisition?
- Which public lands should be identified for disposal? What criteria will be used to determine lands suitable for disposal?
- Should the BLM identify lands available for specific types of disposal (e.g. Recreation and Public Purposes, etc.)?
- How will the BLM address the issue of “trespass town sites”?

Issue No. 13: Mineral Resources (includes Oil, Gas, Geothermal, Coal, Saleable, Solid Leasable (except coal) and Locatable)

- Where should protective constraints be included as a condition of land use authorizations? Possible constraints include, but are not limited to:

- No Surface Occupancy (NSO) (To protect existing rights or fragile resources)
 - Controlled Surface Use (to protect areas with erosive and fragile soils, watershed areas, special status species habitat, visually sensitive areas, nominated ACECs, etc.)
 - Timing Limitation (to protect OHV areas, sage-grouse leks, deer winter ranges, etc.)
 - Controlled Surface Use & Timing Limitation (to protect wildlife habitat, grazing allotments, Herd Management Areas, etc.)
- Should any areas be closed to oil, gas and geothermal leasing?
 - How will the BLM manage energy and mineral resources consistent with other public land uses?
 - How will the BLM identify hazards to the public associated with inactive or abandoned mines or mining related activities?
 - Should the BLM identify areas for mineral material disposal?
 - What areas should be open to oil & gas and geothermal leasing?

Issue No. 14: Hazardous Materials

- How will the BLM manage the use of hazardous materials?
- How will the BLM manage public lands within the Carson River Mercury Comprehensive Environmental Response, Compensation, and Liability Act site under the multiple-use mandate?

Issue No. 15: Special Designations

- What areas warrant special designation? Possible special designations include, but are not limited to:
 - ACECs
 - Wild Horse Ranges
 - Back Country Byways
 - National Historic Landmarks
 - National Historic Trails
 - Natural Areas
 - Wilderness Area(s)
 - Wild and Scenic Rivers
 - National Landscape Conservation System Units
 - Properties of Cultural and Religious Importance/Traditional Cultural Properties

- Which citizen-proposed areas contain wilderness characteristics?
- How will existing special designations be managed and monitored?
- Are there existing special designation areas that need to be modified or removed?

Issue No. 16: Renewable Energy

- How can BLM accommodate development of renewable energy resources such as biomass, solar power, wind energy, and geothermal energy?
- What suitability criteria may be used for geothermal, biomass, solar and wind generation locations?

Issue No. 17: Socio-Economics

- What can the BLM and collaborators do to enhance positive impacts that special land designations or recreational use and development might have on local communities?
- What are the economic effects from maintaining public lands on a sustainable level?
- What are the existing social and economic conditions of the communities and local or regional governments affected by this plan and how will they be affected by the RMP?

Issue No. 18: Environmental Justice

- How can the BLM use Environmental Justice analysis to assist in the development and consideration of planning alternatives?
- How will the BLM promote and provide opportunities for full involvement of minority populations, low-income communities and tribes in BLM decisions that affect their lives, livelihoods, and health?

Issue No. 19: Sustainable Development

- How can the BLM ensure coordination, consultation, and cooperation processes are in place and working effectively with partnerships and stakeholders?
- Are the RMP decisions economically viable and is the community and regional economy adequately considered?
- Is the viability of traditional and non-market activities in the community and surrounding area maintained or improved with the RMP decisions?

Issue No. 20: Comprehensive Travel and Transportation Management

- How will the RMP address travel and transportation management? Will it specify travel management areas, guidelines, and numbering

systems, or will it provide a complete road and trail inventory including roads and trail numbering and marking?

- Where does the BLM need access across private lands?
- What guidelines may be developed for a District Transportation Plan?
- How many miles of road are maintained, and how are maintenance priorities determined?
- How will road re-alignment and new construction be identified?
- What agreements are in place with counties and other government agencies for road maintenance? Do they need re-negotiation to address new concerns?
- How will the BLM identify areas as open/closed/limited to motorized vehicles?
- Are existing travel restrictions still valid? Are there new areas in need of travel restrictions?
- How should OHVs be managed? What criteria would be used to designate OHV use areas (routes) and the uses permitted on each?
- How will public access be provided and maintained for uses such as bike trails, horseback riding trails, hiking trails, all-terrain vehicle and mountain bicycle use? What criteria would be used to designate these trails and the uses permitted on each?
- Which roads in the CCD are needed to provide adequate access? How will these roads, additional needed access, and the trails system be incorporated into the Transportation Plan?
- How will appropriate access points to public lands be identified within urban interface?

Issue No. 21: Cave and Karst Resources

- Does the CCD have any cave resources and karst resources?

Issue No. 22: Urban Growth

- How will the BLM address urban growth issues?
- How will urban interface issues be identified?
- How will the BLM address local government concerns with urban growth issues?

Issue No. 23: Forest/Woodland Management

- What are the characteristics (desired future conditions and historic range of variability) of a healthy forest/woodland within the planning units?

- What management tools and practices should be used to maintain healthy forest and woodlands (e.g., pinyon, juniper, aspen, mountain, mahogany) conditions?
- How does the BLM manage for the values of forest and woodlands within the context of an overall ecological framework?
- How would the BLM address commercial, non-commercial and tribal utilization of forest and woodland resources?

Issue No. 24: Geology and Soils

- How will fragile resources such as fossils be protected with the ongoing mineral resource extractions on BLM administered land?
- How will BLM address issues related to accelerated soil erosion?
- What stocking rates will be applied to ensure limited disturbance to soils, microbiotic crusts, and native plants including seedlings?

Issue No. 25: Drought Management/Climate Change

- What are the effects of current and future climate change management on BLM lands?
- How does the western United States going through a severe drought affect management on BLM lands?

Issue No. 26: Public Health and Safety

- How will potential shooting ranges or other areas of public land where concentrated recreational shooting activities occur be identified?
- What are the cumulative impacts of toxins such as Mercury and the herbicide 2,4-D on public lands?

Issue No. 27: Other Resource Concerns

- What actions will be taken to help deter illegal dumping on public lands?

The BLM will use the planning issues to help guide the development of a reasonable range of alternative management strategies for the RMP. In addition to planning issues, comments also addressed issues that are policy or administrative actions, issues that have been or will be addressed by the BLM outside of the RMP, and issues that are outside the scope of the RMP.

I.4.3 Issues Considered but Not Further Analyzed

In addition to planning issues, the BLM received 37 public scoping comments addressing issues that are policy or administrative actions, issues that have been or will be addressed outside the RMP, or issues that are outside the scope of the RMP. Tables C-1 through C-3 in Appendix C of the Carson City RMP/ EIS Scoping Summary Report contain the comments received that are outside the

scope of the RMP, are related to issues to be solved by national policy, are related to implementation actions, or are general comments related to the RMP process.

I.5 PLANNING CRITERIA AND LEGISLATIVE CONSTRAINTS

The BLM carries out all planning actions under the authority and overarching guidance of the FLPMA and the NEPA. The BLM manages public lands under the primary authority of the FLPMA, which establishes provisions for land use planning, rangeland management, right-of-way (ROW) authorizations, designated management areas, and land tenure adjustments. In addition to the FLPMA, NEPA requires the BLM to take public input and information into consideration when considering the environmental impacts of federal actions affecting the quality of the human environment. NEPA also requires the BLM to make information about those impacts available to the public.

In addition to the overarching legislative constraints provided in the FLPMA and NEPA, the BLM develops planning criteria to establish standards, rules, and other factors to guide the planning process. Planning criteria assist the BLM in defining the scope of work and estimate the extent of data collection and analysis. They also help guide the final plan selection and provide a basis for judging the responsiveness of the planning options. Planning criteria are based on several factors, including applicable laws and regulations; agency guidance, including guidance from other federal, state, local, and tribal governments; analysis of information relevant to the planning area; results of public involvement processes; and professional judgment.

Prior to the public scoping process, the BLM internally developed preliminary planning criteria. These criteria would focus the CCD's planning effort and guide decision-making. During the public scoping process, the BLM introduced the preliminary criteria to the public. Preliminary planning criteria are as follows:

- The proposed RMP will comply with the FLPMA and all other applicable laws, regulations, and policies.
- Impacts from the management alternatives considered in the RMP will be analyzed in an EIS developed in accordance with planning and CEQ regulations at 43 CFR 1610, 40 CFR 1500, and in the Department Manual (DM 516 DM 1-8).
- The BLM will use a collaborative public process and multi-jurisdictional approach, where possible, to jointly determine the desired future condition of public land.
- Management of migratory birds within the planning area will be consistent with the Migratory Bird Treaty Act (MBTA). Migratory birds are protected and managed under the MBTA of 1918, as amended (16 USC 703 et seq.) and Executive Order (EO) 13186. Under the MBTA, nests with eggs or young of migratory birds may

not be harmed, nor may migratory birds be killed. EO 13186 directs federal agencies to promote the conservation of migratory bird populations.

- Other federal, state, and local agencies, including military departments, with jurisdiction by law or special expertise will be invited to participate in the planning process.
- Lifestyles, concern, safety, and health of area residents will be recognized in the RMP.
- The RMP will recognize the State of Nevada's responsibility to manage wildlife.
- The RMP will preserve and protect certain BLM-administered lands in their natural condition so that these lands continue to provide food and habitat for fish and wildlife and domestic animals in conformance with the requirements of Section 102(a)(8) of the FLPMA and the Public Rangelands Improvement Act.
- The RMP will recognize the state's authority to regulate air quality and adjudicate water rights.
- The RMP will recognize the existence of valid existing rights. Lands covered in the RMP will be public land, including split estate, administered by the BLM. Management decisions on lands not administered by the BLM will not be made in the RMP. In addition to public land, the BLM administers fluid mineral interests on other federal lands, including lands managed by the Forest Service, Reclamation, and US DOD military withdrawn lands, and manages federal mineral estate beneath private or state surface estates.
- The RMP will be developed cooperatively and collaboratively with the State of Nevada, tribal governments, county and municipal governments, other federal agencies, the Sierra Front-Northwestern Great Basin RAC, and other interested groups, agencies, and individuals.
- The RMP will follow the procedures outlined in the Air Quality Memorandum of Understanding (MOU) Among the USDA, DOI, and US Environmental Protection Agency (EPA), Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the NEPA Process.
- The RMP/EIS will incorporate management decisions that are brought forward from the existing Consolidated RMP and amendments.
- RMP development will include government-to-government consultation with Native American tribes in conformance with the requirements of Section 202(c)(9) of the FLPMA; Section 101(d)(6) of the National Historic Preservation Act (NHPA); the American

Indian Religious Freedom Act; Treaty Rights where applicable; EO 13007 (Indian Sacred Sites); EO 13084 (Consultation and Coordination with Indian Tribal Governments); EO 12898 (Environmental Justice); BLM Handbook H-8160-1 revised by Manual Section 8120 (Tribal Consultation Under Cultural Resources); BLM Nevada Instruction Memorandum (IM) NV-2005-008; and other applicable laws, regulations, and policies.

- Based on public scoping results, the BLM will develop alternatives for resolution of resource management issues.
- The planning process will incorporate by reference the appropriate standards and guidelines (developed by the RAC) as approved by the Nevada BLM State Director.
- The State Historic Preservation Officer (SHPO) in Nevada and California will be consulted and involved throughout the RMP/EIS process under provisions in the National Programmatic Agreement and the State [of Nevada and California] Protocol Agreements between BLM and the SHPOs.
- Endangered species recovery plan goals, including plans for the reintroduction of endangered species and other species, will be addressed. In accordance with the Memorandum of Agreement on the Endangered Species Act (ESA) Section 7 Consultations and Coordination, dated August 30, 2000, the BLM and US Fish and Wildlife Service (USFWS) will jointly prepare a programmatic consultation agreement.
- Areas potentially suitable as areas of critical environmental concern (ACECs) or other special management designations will be identified and analyzed in the RMP/EIS.
- The mineral development scenario will be based on mineral potential within the CCD, projected demand from the mineral industries, and the National Energy Plan. The planning process will address areas closed to mining, constraints to surface use, and post-mining land use.
- The BLM's Planning for Fluid Minerals Handbook H-1624-1 (BLM 2013i) will be followed in the development of fluid minerals determinations. Leasing stipulations requirements for exceptions, modifications and waivers will also follow H-1624-1 and H-1601-1.
- Baseline reasonably foreseeable management/development scenarios will be developed based on historical, existing, and projected levels for all programs.
- The RMP will address transportation and access per guidance outlined in BLM Manual Section 1626, Travel and Transportation

Management, and the BLM Travel and Transportation Management Handbook H-8342 (BLM 2012n).

- Soil/vegetation correlations from Natural Resource Conservation Service (NRCS) soil surveys will be used to determine ecological site potentials. Ecological Site Inventory will be used to establish and document current vegetation conditions.
- The NRCS Major Land Resource Areas will be used to describe ecological or range site vegetative potential.
- Fire and fuels management strategies will be consistent with the 2009 Federal Wildland Fire Policy, and other handbooks, manuals, and IMs in effect.
- The RMP/EIS will be consistent with US Department of Homeland Security policies to the extent practicable.
- For NEPA analysis purposes, the short-term will be 5 years, and the long-term will be 20 years. The RMP will be evaluated every 5 years to determine if amendments or revisions are necessary.
- The RMP will recognize lifestyles and concerns of area residents and stakeholders. Analysis of economic matters will comply with established acceptable standards and environmental justice factors will be considered using analytical parameters recommended by the EPA (EPA 1998).
- Geographic Information System (GIS) and metadata information will meet Federal Geographic Data Committee standards, as required by EO 12906, signed April 11, 1994.
- Other applicable BLM data standards will be followed. The goal is to develop a plan with spatial data that can be easily accessed for use in subsequent NEPA analyses.
- The requirements to address sage-grouse habitat and conservation as outlined in the National Sage-Grouse Habitat Conservation Strategy and Washington Office IM 2012-033, or most current guidance will be followed.
- The BLM will consider airspace use as well as military use of public lands in developing allocations and management guidance in the RMP.
- The RMP will consider the guidance for ROWs and corridors contained in Washington Office IM 2002-196 or the most current guidance available. The RMP will also consider setting resource management objectives (e.g., vegetation and wildlife) within designated corridors.
- Management of energy and nonenergy mineral resources will be consistent with the acts of Congress relating to the Mineral Leasing

Act of 1920; Domestic Minerals Program Extension Act of 1953; the Mining and Minerals Policy Act of 1970; the Geothermal Act of 1970; the FLPMA; the National Materials and Minerals Policy, Research and Development Act of 1980; the Energy Policy Act of 2005; IB 2008 BLM Energy and Mineral Policy; and 43 CFR 3100, 3200, 3500, 3600, 3800.

- Best management practices (BMPs) for all BLM management activities will be incorporated into the RMP. Adaptive management principles will be adopted as appropriate.

The BLM also received four public comments during the public scoping process that were identified as additional suggestions for planning criteria. The following is a summary of these comments:

- The BLM must prepare and maintain, on a continuing basis, an inventory of all BLM-administered lands and their resources and values giving priority to areas of critical environmental concern, including data on current population and trends for sensitive, rare, threatened, and endangered species.
- In accordance with NEPA, the BLM must take a “hard look” at the consequences of the proposed action before making its decision. To comply, the BLM must study, develop, and describe alternative actions.

I.5.1 Relationship to BLM Policies, Plans, and Programs

The BLM planning regulations require that RMPs be consistent with approved or adopted land use plans and similar plans of other federal, state, local, and tribal governments, to the extent that such plans are consistent with federal laws and regulations applicable to public lands. **Table I-3**, RMP Amendments and Other Documents Considered for Implementation-level Planning, identifies those policies, plans, and programs that apply to the management of public lands and resources in the CCD and that were considered in the process of preparing this RMP/EIS.

Table I-3
RMP Amendments and Other Documents Considered for
Implementation-level Planning

Consolidated RMP*
Southern Washoe County Urban Interface Plan Amendment 2001
BLM/Navy Amendment for Certain Lands in Churchill County, NV 2001
North Douglas County Specific Plan Amendment 2001
Alpine County RMP Amendment 2007
Denton-Rawhide Mine RMP Amendment 2007

Table I-3
RMP Amendments and Other Documents Considered for
Implementation-level Planning

Implementation-Level Plans
BLM Final Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States, (2007)
ROD and RMP Amendments for Geothermal Leasing in the Western United States (2008)
Approved RMP Amendments/ROD for Designation of Energy Corridors on Bureau of Land Management-Administered Lands in the 11 Western States (2009)
Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States (2005)
Programmatic EIS for Solar Energy Development in Six Southwestern States (2011)
BLM Policy and Program Guidance for Implementation-Level Planning
BLM Manual 6500, Wildlife and Fisheries Management (1988)
BLM Manual 1737, Riparian-Wetland Area Management (1992)
BLM Manual Section 1745 Introduction, Transplant, Augmentation and Reestablishment of Fish, Wildlife and Plants (1992)
National Fire Plan: Federal Wildland Fire Management Policy (1995)
BLM Manual 1601, Land Use Planning (2000)
National Fire Plan: Review and Update of the 1995 Federal Wildland Fire Management Policy (2001)
National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (2001)
Air Quality MOU Among the USDA, DOI, and EPA, Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions through the NEPA Process (June 2011)
Standards for Rangeland Health & Guidelines for Grazing Management, Sierra Front Northwestern Great Basin Area. Reno. (2007)
BLM Manual 6840, Special Status Species Management (2001)
Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (January 10, 2001)
Priorities for Recreation and Visitor Services (2003)
Avian Protection Plan Guidelines (Avian Power Line Interaction Committee and USFWS 2005)
Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee 2006)
West-Wide Energy Corridor-Final Programmatic EIS-Western United States (2008)
Conservation Plans for Sage Grouse, Columbia Spotted Frog ; Lahontan Cutthroat Trout Recovery Plan.
Multiple Use Decisions For Grazing Allotments/Allotment Complexes since 1986
Biological Opinions for Lahontan cutthroat trout
Protecting People and Natural Resources: A Cohesive Fuels Treatment Strategy (February 2006)
A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy (August 2001)
A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Strategy Implementation Plan (December 2006)
BLM Manual 7300, Air Resource Management Program (2009)
Wetland Riparian Initiative (1990)
Healthy Forest Initiative (Ongoing)
Programmatic Environmental Assessment – Integrated Weed Management on Bureau of Land Management Lands (1998)
Environmental Assessment – Herbicide Application for Control of Noxious Weeds (1999)

Table I-3
RMP Amendments and Other Documents Considered for
Implementation-level Planning

Environmental Assessment – Integrated Weed Management (2002)
ROD, Vegetation Treatment on BLM Lands in Thirteen Western States (1991)
Final Vegetation Treatments Using Herbicides Programmatic EIS—Western United States (2007)
Final Environmental Impact Statement: Wilderness Recommendations for Nevada Contiguous Lands (1990)
Hawthorne Army Depot Integrated Natural Resources Management Plan (2013)
National Fire Plan: Review and Update of the 1995 Federal Wildland Fire Management Policy (2001)
National Fire Plan: Federal Wildland Fire Management Policy (1995)
National Management Strategy for Motorized OHV Use on Public Lands (2001)
National Scenic and Historic Trail Administration – Manual #6250 (2012)
Management of National Scenic and Trails Under Study or Recommended as Suitable for Congressional Designation – Manual #6280 (2012)
Aquatic Resource Management – Manual #6720 (1991)
Management of Wilderness Study Areas – Manual #6330 (July 2012)
Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process – Manual #6320 (2012)
Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation, Planning, and Management – Manual #6400 (July 2012)
Special Status Species Management – Manual #6840 (2008)
Guidance for Implementation of Federal Wildland Fire Management Policy (2009)
Draft Regional Mitigation Strategy Manual #1794 (2013)
Aquatic Resource Management – Manual #6720 (1991)
Wetland Riparian Initiative (1990)
Healthy Forest Initiative (Ongoing)
Nevada Statewide Wilderness Report (1991)
Big Game Habitat Management Plan (1993)

I.6 COLLABORATION

Effective collaboration among agencies in preparing NEPA analyses, such as for this RMP, has many benefits, including the following:

- Disclosing relevant information early in the process, thereby avoiding duplication with other federal, state, local, and tribal planning efforts and procedures while maximizing agency efforts
- Including technical expertise and staff support from a variety of backgrounds
- Establishing a mechanism for resolving intergovernmental issues should they arise in the future

The following sections describe collaboration and consultation efforts with government agencies, tribes, and the Sierra Front-Northwestern Great Basin

RAC. The CCD RMP/EIS Collaboration and Communication Plan (BLM 2012k) as well as **Chapter 5**, Consultation and Coordination, contain additional information regarding collaboration with government agencies and tribal representatives.

1.6.1 Intergovernmental and Interagency Collaboration

At the outset of the RMP process, the BLM identified a list of potential federal, state, and local government as well as tribal stakeholders. February 2012 through July 2013, the BLM sent formal invitations to 50 representatives. **Table I-4**, Cooperating Agency Participation, lists the agencies invited and identifies the 26 that have agreed to participate in the RMP process as of July 3013.

Table I-4
Cooperating Agency Participation

Agencies and Tribes Invited to be Cooperators	Accepted	Declined
USFWS	✓	
USFWS Stillwater Wildlife Refuge	✓	
Forest Service, Humboldt-Toiyabe National Forest	✓	
Forest Service Plumas National Forest	✓	
EPA Region IX		✓
US Department of Navy -Naval Air Station Fallon	✓	
US DOD – NV Army National Guard	✓	
US DOD – US Marine Corps Mountain Warfare Training Center	✓	
US DOD – Hawthorne Army Depot	✓	
Reclamation	✓	
Nevada Governor's Office		✓
Nevada Department of Conservation and Natural Resources	✓	
Nevada Army National Guard	✓	
Nevada Division of State Lands		✓
Nevada Division of Minerals		✓
Nevada Department of Wildlife	✓	
Washoe County (Nevada)	✓	
Storey County (Nevada)	✓	
Douglas County (Nevada)	✓	
Lyon County (Nevada)	✓	
Churchill County (Nevada)	✓	
Mineral County (Nevada)	✓	
Nye County (Nevada)	✓	
Carson City (Nevada)	✓	
Alpine County (California)	✓	
Plumas County (California)		✓
Lassen County (California)		✓
City of Reno (Nevada)		✓
City of Sparks (Nevada)		✓
City of Fernley (Nevada)		✓
City of Yerington (Nevada)		✓
City of Fallon (Nevada)		

**Table I-4
Cooperating Agency Participation**

Agencies and Tribes Invited to be Cooperators	Accepted	Declined
Town of Gardnerville (Nevada)		✓
Town of Minden (Nevada)		✓
Washoe Tribe of California and Nevada	✓	
Reno Sparks Indian Colony	✓	
Bridgeport Indian Colony	✓	
Susanville Indian Rancheria		✓
Lovelock Indian Colony		✓
Yerington Paiute Tribe		✓
Walker River Paiute Tribe	✓	
Fallon Paiute- Shoshone Tribe		✓
Yomba Shoshone Tribe		✓
Pyramid Lake Paiute Tribe	✓	

I.6.2 Resource Advisory Council Collaboration

The BLM notified the Sierra Front-Northwestern Great Basin RAC of the RMP revision project on March 5, 2012. The RAC is comprised of 15 members representing a range of interests. The RAC provides input on public land management issues, including land use planning, recreation fees, public land classification, management, and tenure within the BLM CCD and Winnemucca District. The group is facilitated by the public affairs officer from the BLM. The first meeting with the new RAC was held on June 14, 2012, at the CCD Office. After a presentation of the RMP process highlighting the components and issues of the planning area, preliminary planning criteria, and project status.

I.6.3 Tribal Relationships and Indian Trust Assets

The unique political relationship between the US government and federally recognized Native American tribes is defined by treaties, statutes, executive orders, judicial decisions, and agreements. This relationship has created a special federal trust responsibility, involving the legal commitments and obligations of the US toward Native American tribes, tribal lands, tribal trust resources, and the exercise of tribal rights. These trust responsibilities supersede any and all actions taken by the BLM.

Indian trust assets means lands, natural resources, money or other assets held by the US government in trust or restricted against alienation for Native American tribes and individual Native Americans. Trust is a formal, legally defined, property-based relationship that depends on the existence of three elements: (1) a trust asset (e.g., lands, resources, and money); (2) a beneficial owner (the Native American tribe or individual allottee); and (3) a trustee (the Secretary of the Interior). Many things and ideas that are commonly represented in terms of “trust” obligations are not actually part of the government’s trust responsibility toward Native Americans. Cultural resources and sacred sites on BLM-administered lands are not Indian trust assets. Human remains and cultural

items subject to Native American Graves Protection and Repatriation Act (NAGPRA) are not Indian trust assets. The BLM is legally required to notify the tribes of all federal actions on federal land. For nonemergency actions, the BLM is required to provide a 30-day window in which the tribes can institute consultation on the action.

The CCD initiated consultation with 10 tribes identified as having an interest or traditional cultural properties in the planning area. CCD staff provided a summary presentation of the RMP process to each of the identified tribes. **Table I-4**, Cooperating Agency Participation, above, identifies the potentially interested tribes and whether the tribe has agreed to participate in the process. Consultation is required by and will be consistent with the NHPA and the American Indian Religious Freedom Act.

I.6.4 Public Presentations

In addition to public scoping conducted for the RMP, travel management workshops were held on October 10, 2012, in Reno, Nevada, at John Ascuaga's Nugget Poolside Terrace Room; on October 16, 2012, in Fallon, Nevada, at the Fallon Convention Center; and on October 18, 2012, in Minden, Nevada, at the Carson Valley Inn.

The BLM staff was in attendance to answer questions. Comment forms were provided to collect public input. Input gathered during the workshops was used to help the BLM create a comprehensive route inventory. This route inventory will form the basis for a system of designated routes to guide all modes of travel in the CCD.

As of December 2013, BLM staff from the CCD had conducted more than 90 public information meetings with or presentations for public, local, and state government, and tribal groups. **Table I-5**, CCD RMP Presentations, outlines the presentations and dates they were conducted.

Table I-5
CCD RMP Presentations

RMP Presentation: Group and Location	Public Meeting	Date
Alpine County Board of Supervisors	✓	April 3, 2012
Churchill County Commissioners	✓	April 18, 2012
Mineral County Commissioners	✓	April 18, 2012
Bridgeport Indian Colony	✓	April 24, 2012
NV Trail Stewards	✓	April 19, 2012
Lovelock Indian Colony		April 24, 2012
Susanville Indian Rancheria		April 25, 2012
Alpine County Board of Supervisors	✓	April 3, 2012
NV Trail Stewards	✓	May 1, 2012
Reno-Sparks Indian Colony	✓	May 7, 2012

**Table I-5
CCD RMP Presentations**

RMP Presentation: Group and Location	Public Meeting	Date
Yerington Paiute Tribe	✓	May 9, 2012
Walker River Paiute Tribe	✓	May 10, 2012
Yomba Tribe	✓	May 11, 2012
Washoe Tribe of NV and CA	✓	May 11, 2012
Fallon Paiute-Shoshone Tribe	✓	May 22, 2012
Storey County Commissioners	✓	June 5, 2012
NV Allstar Trail Riders	✓	June 13, 2012
Sierra Front-Northwestern Great Basin RAC	✓	June 14, 2012
Carson City Advisory Board to Manage Wildlife	✓	June 18, 2012
Back Country Horseman (High Sierra Chapter)	✓	June 20, 2012
Socioeconomic Workshop Carson City		June 27, 2012
Socioeconomic Workshop Fallon		June 28, 2012
Nye County Commissioners	✓	July 3, 2012
Pyramid Lake Paiute Tribe ID Team		July 10, 2012
Alpine County Board of Supervisors	✓	July 17, 2012
Mineral County Commissioners	✓	July 18, 2012
Churchill County Commissioners	✓	July 18, 2012
Lyon County Commissioners	✓	July 19, 2012
Carson City Board of Supervisors	✓	August 2, 2012
Douglas County Commissioners	✓	August 2, 2012
Pyramid Lake Paiute Tribe	✓	August 3, 2012
Mineral County Commissioners	✓	August 15, 2012
Churchill County Commissioners	✓	August 15, 2012
Lassen County Board of Supervisors	✓	August 21, 2012
Washoe County Commissioners	✓	August 28, 2012
Carson River Advisory Committee	✓	September 17, 2012
Back Country Horseman (Reno Chapter)	✓	September 19, 2012
Mineral County Commissioners	✓	September 19, 2012
Churchill County Commissioners	✓	September 19, 2012
Carson City Open Space Advisory Committee	✓	September 24, 2012
Travel and Transportation Workshop	✓	October 10, 2012
Travel and Transportation Workshop	✓	October 16, 2012
Mineral County Commissioners	✓	October 17, 2012
Churchill County Commissioners	✓	October 17, 2012
Travel and Transportation Workshop	✓	October 18, 2012
Lyon County Commissioners	✓	October 18, 2012
Pine Nut Trails Association	✓	November 6, 2012
Reno-Sparks Indian Colony	✓	November 14, 2012
Mineral County Commissioners	✓	December 5, 2012
Churchill County Commissioners	✓	December 6, 2012

**Table I-5
CCD RMP Presentations**

RMP Presentation: Group and Location	Public Meeting	Date
Mineral County Commissioners	✓	January 16, 2013
Churchill County Commissioners	✓	January 16, 2013
Sierra Front-Northwestern Great Basin RAC	✓	February 1, 2013
Fallon Paiute-Shoshone Tribe	✓	February 12, 2013
Battle Born Cruisers of Northern NV	✓	February 12, 2013
Mineral County Commissioners	✓	February 20, 2013
Churchill County Commissioners	✓	February 20, 2013
Mineral County Commissioners	✓	March 20, 2013
Churchill County Commissioners	✓	March 20, 2013
Churchill County one-on-one meeting		April 8, 2013
Mineral County Commissioners	✓	April 17, 2013
Churchill County Commissioners	✓	April 17, 2013
Washoe County one-on-one meeting		April 24, 2013
Nevada State Grazing Board CCD N-3	✓	April 25, 2013
Douglas County one-on-one meeting		May 7, 2013
Mineral County Commissioners	✓	May 8, 2013
Carson City one-on-one meeting		May 10, 2013
Mineral County Commissioners	✓	May 16, 2013
Churchill County Commissioners	✓	May 16, 2013
Fallon Paiute-Shoshone Tribe		May 17, 2013
Alpine County one-on-one meeting		May 22, 2013
Nye County one-on-one meeting		May 28, 2013
Cooperating Agency meeting		June 13, 2013
Mineral County Commissioners	✓	June 20, 2013
Churchill County Commissioners	✓	June 20, 2013
Fallon Paiute-Shoshone Tribe		June 27, 2013
RAC informal presentation		July 17, 2013
Mineral County Commissioners	✓	July 18, 2013
Churchill County Commissioners	✓	July 18, 2013
Fallon Paiute-Shoshone Tribe	✓	August 9, 2013
Reclamation relinquishment meeting in Fallon with grazing permittees	✓	August 13, 2013
Mineral County Commissioners	✓	August 21, 2013
Churchill County Commissioners	✓	August 21, 2013
Theodore Roosevelt Conservation Partnership		September 4, 2013
Yomba Tribe		September 17, 2013
Mineral County Commissioners	✓	September 18, 2013
Churchill County Commissioners	✓	September 18, 2013
Fallon Paiute-Shoshone Tribe		September 18, 2013
Storey County one-on-one meeting		November 7, 2013

**Table I-5
CCD RMP Presentations**

RMP Presentation: Group and Location	Public Meeting	Date
Washoe County one-on-one meeting		November 7, 2013
Douglas County one-on-one meeting		November 13, 2013
Fallon Paiute-Shoshone Tribe		November 15, 2013
Mineral County Commissioners	✓	November 20, 2013
Churchill County Commissioners	✓	November 20, 2013
Marine Corp Mt Warfare Training Center one-on-one meeting		November 22, 2013
Lyon County one-on-one meeting		November 26, 2013
Reno-Tahoe Airport Authority		December 3, 2013
Mineral County Commissioners	✓	December 18, 2013
Churchill County Commissioners	✓	December 18, 2013
Susanville Indian Rancheria		January 15, 2014
Yomba Tribe		February 14, 2014
Fallon Paiute-Shoshone Tribe		February 28, 2014
Walker River Paiute Tribe		March 13, 2014
Mineral County Commissioners	✓	March 19, 2014
Churchill County Commissioners	✓	March 19, 2014
Sierra Front Permittee Outreach Meeting		March 28, 2014
Alpine County Board of Supervisors	✓	April 1, 2014

I.7 OTHER RELATED PLANS

The BLM planning regulations require that its RMPs be consistent with officially approved or adopted resource-related plans of other federal, state, local, and tribal governments to the extent those plans are consistent with federal laws and regulations applicable to BLM-administered lands. The plans formulated by federal, state, local, and tribal governments that relate to management of lands and resources that have been reviewed and considered as the RMP/EIS has been developed include:

I.7.1 Consistency with Other Federal Plans

- Final Programmatic EIS on Wind Energy Development on BLM-Administered Lands in the Western United States (2005)
- ROD and RMP Amendments for Geothermal Leasing in the Western United States (2008)
- West-Wide Energy Corridor Final Programmatic EIS—Western United States (2008)
- Programmatic EIS for Solar Energy Development in Six Southwestern States (2011)
- Western Association of Fish and Wildlife Agencies – Greater Sage-Grouse Comprehensive Conservation Strategy (December 2006)

- National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300; 1994, revised 2007)
- Naval Air Station Fallon Integrated Natural Resources Management Plan (June 2006)
- Toiyabe National Forest Land and Resource Management Plan (1986)
- Plumas National Forest Land and Resource Management Plan (1988)

I.7.2 State Plans

- Nevada Division of State Lands, Nevada Statewide Policy Plan for Public Lands (1985)
- Nevada Division of State Lands, Lands Identified for Public Acquisition (1999)
- Nevada Division of State Lands, Nevada Natural Resources Status Report (2002)
- State of Nevada Drought Plan (1993)
- Nevada's 2003 Statewide Comprehensive Outdoor Recreation Plan—Assessment and Policy Plan (2003)
- Nevada BLM Statewide Wilderness Report (1991)
- Statewide Wildfire Management Plan (developing)
- Nevada Comprehensive Preservation Plan (2004)
- Nevada Comprehensive Preservation Plan (2012)
- Nevada's Coordinated Invasive Weed Strategy (2000)
- Nevada Wildlife Action Plan (March 2013)
- NDOW Nevada Elk Species Management Plan (1997)
- Bi-State Action Plan. Past, Present, And Future Actions for Conservation of the Greater Sage-Grouse Bi-State Distinct Population Segment (2012)
- State of Nevada Sagebrush Ecosystem Program (2014)

I.7.3 Local Government Plans

- Alpine County General Plan (2009)
- Carson City Comprehensive Master Plan (2006)
- Churchill County Master Plan (2010)
- Churchill County Water Resource Plan (2007)
- City of Reno Master Plan (2012)
- Douglas County Master Plan (2012)

- Douglas County Open Space Plan (2007)
- Lassen County General Plan (1999)
- Lyon County Comprehensive Master Plan (2010)
- Lyon County Public Lands Policy (2013)
- Nye County Comprehensive Master Plan (2011)
- Plumas County General Plan (1984)
- Storey County Master Plan (1994)
- Truckee Meadows Regional Plan (2007)
- Washoe County Open Space and Natural Resource Management Plan (2008)
- Washoe County Comprehensive Master Plan (2005)
- Washoe County Water Resources Management Plan (2011)

I.8 IMPLEMENTATION AND MONITORING OF THE RESOURCE MANAGEMENT PLAN

I.8.1 Introduction

The CCD RMP would provide broad direction for managing the decision area. Implementation of the RMP would involve completion of several tasks, some of which are completed when the plan is adopted, while others would continue over the 20-year life of the plan. This section provides a framework to guide implementation of the planning decisions contained in the RMP, and future actions that may occur as a result of this plan. Implementation of future actions would often require additional site-specific planning to implement the broad guidance contained in the RMP. This chapter also contains information on the process to maintain the RMP in the future as additional information becomes available and changes in conditions or resource uses change.

The BLM would have the authority to implement the RMP when the Nevada BLM State Director signs the ROD for the RMP. The availability of the approved ROD and RMP will be announced in the *Federal Register* and posted on the CCD RMP website. The BLM will develop a schedule for systematically implementing the decisions in the approved RMP. All implementation decisions would be contingent on BLM budget constraints and subject to the environmental review requirements in NEPA.

The BLM will monitor implementation of the RMP and periodically evaluate the need for revisions or amendments at a minimum every five years. RMP evaluations will also be completed prior to any plan revisions and for major RMP amendments. Revisions to the RMP will be required to comply with FLPMA planning guidelines as well as the environmental review requirements in NEPA. An adaptive management approach would also apply and is discussed in Section I.8.4.

To receive updates on the current and future status of the CCD RMP/EIS, the public can visit the project website at: http://www.blm.gov/nv/st/en/fo/carson_city_field.html or to be added to the mailing list, send an email to blm_nv_ccdo_rmp@blm.gov.

I.8.2 Compliance with NEPA

The RMP includes goals, objectives, and decisions that were subjected to environmental analysis as required by the NEPA during the preparation of the RMP. Subsequent planning at the project or activity plan level would require additional NEPA analysis in most cases and rarely an amendment to the RMP.

I.8.3 Consultation, Coordination and Collaboration

This plan and all implementation plans would be prepared in close coordination and collaboration with other federal agencies, state, tribal, and local governments, the public, and other interested parties. Collaborative approaches to implementation are necessary to assure success. While the BLM retains the responsibility and authority for land management decisions, these decisions are more meaningful, effective and enduring if made in a collaborative and open process. Therefore, close working relationships among management and regulatory agencies need to be developed and maintained. In addition, others outside of the BLM (e.g., state and local agencies, universities, and volunteers) should be involved in subsequent analysis, monitoring, evaluation, research, and adaptive management processes.

Continuing opportunities for public participation may include, among other things:

- RAC recommendations relating to the management of the planning area
- Volunteer partnerships or assistance agreements with other agencies to complete assessments, establish baseline data, monitor, and recommend management actions as a result of these processes
- Working groups, agreements and memorandums of understanding with state and tribal governments

I.8.4 Adaptive Management and Regional Mitigation Strategies

The RMP would be implemented using an adaptive management process. The BLM Land Use Planning Handbook (H-1601-1) defines adaptive management as “. . . a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes.”

Under adaptive management, decisions, plans and proposed activities are treated as working hypotheses rather than final solutions to management of resources and uses. For the purposes of this plan, adaptive management would

represent a process that tests, evaluates and adjusts the assumptions, objectives, actions, and subsequent on-the-ground results from the implementation of RMP decisions. Used effectively, adaptive management would provide resource managers with the flexibility to respond quickly and effectively to changing resource and user conditions. Changes in management actions would be based on site-specific resource monitoring and evaluation. On February 1, 2008, the DOI published its Adaptive Management Implementation Policy (DOI 2008). The adaptive management outlined within this RMP/EIS complies with this policy.

As previously noted, adaptive management requires ongoing adjustment of goals, objectives, management area prescriptions, standards, and guidelines constraining land uses. A land use plan amendment could be initiated in response to monitoring and evaluation findings, new data, new or revised policy, a change in circumstances or a proposed action that may result in a change in the scope of resource uses, or a change in the standards and guidelines of the approved RMP. Implementation-level planning may also address findings from adaptive management and thus eliminate the need for land use plan amendment. For example, an allotment management plan, which is an implementation-level plan may be able to address resource conditions through modifications in the season of use or animal unit months rather than an area being identified as not available to grazing, which is a land use-level decision and would require an amendment to the RMP.

The RMP would also be implemented using regional mitigation strategies per BLM [IM 2013-142, Interim Policy, Draft Regional Mitigation Manual Section 1794](#).

I.8.5 Sage-grouse Management and Planning

This Draft RMP/EIS includes sage-grouse habitat management allocations consistent with the Nevada and Northeastern California Greater Sage-Grouse Draft LUP Amendment/EIS and the Bi-State Sage Grouse Draft Forest Plan/LUP Amendment. These plan amendment documents have been released as public drafts and no decisions have been made; however, decisions on these documents are expected prior to the Carson City District Proposed RMP/Final EIS. The decisions for the Greater and bi-state sage grouse efforts will help inform the CCD Proposed RMP/Final EIS. To facilitate district-level planning during the interim period, the CCD has developed a range of alternatives for analysis.

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Chapter 2

Alternatives

CHAPTER 2

ALTERNATIVES

2.1 INTRODUCTION

This chapter describes Alternatives A through E for the Carson City Draft RMP/EIS in detail and includes references to figures identifying where actions would be applicable (**Appendix A**, Alternatives A, B, C, D, and E Figures). The proposed alternatives were formulated in response to issues and concerns identified through public scoping. The proposed alternatives resolve deficiencies with current management strategies and explore opportunities for enhanced management of resources and resource uses.

Plan Maintenance

This RMP is based on current scientific knowledge and the best available data. Effective implementation requires the flexibility to adapt the RMP in response to changing information and conditions. As discussed in Chapter 1, the BLM will periodically review decisions in this RMP to ensure that specified measures continue to support stated goals and objectives and that implementation guidance remains adequate. As new information becomes available, or as needed to address identified deficiencies, the BLM may update and revise the RMP in accordance with the appropriate environmental review and documentation processes.

Decision Area for the Carson City RMP

The Carson City RMP decision area covers approximately 4.8 million acres of BLM-administered surface land as well as federal subsurface mineral estate underneath private or state surface estates in the planning area (shown in **Figure 2-1**). In addition to public land, the BLM administers fluid mineral interests on other federal lands, including lands managed by the Forest Service and the Bureau of Reclamation (Reclamation) as well as US DOD military withdrawn lands. The US Navy at Naval Air Station Fallon administers approximately 240,717 acres of withdrawn and acquired lands associated with Naval Air Station Fallon and the Fallon Range Training Complex. The BLM

retains the management for all of the natural resources on approximately 205,860 acres of these Navy-withdrawn lands. These acres are not calculated into the overall BLM-administered acres but rather are shown on maps in this document as US DOD or not specified.

2.2 INTRODUCTION TO RMP ALTERNATIVES

RMP decisions consist of identifying and clearly defining goals and objectives (desired outcomes) for resources and resource uses, followed by developing allowable uses and management actions necessary for achieving the goals and objectives. These critical determinations guide future land management actions and subsequent site-specific implementation actions to meet multiple use and sustained yield mandates while sustaining land health.

2.2.1 Purpose of Alternative Development

Alternative development is the cornerstone of the RMP/EIS process. Land use planning and NEPA regulations require the BLM to formulate a reasonable range of alternatives. Established planning criteria, as outlined in 43 CFR Section 1610, guide the alternative development process.

The basic goal of alternative development is to produce distinct potential management scenarios that:

- Address the identified major planning issues
- Explore opportunities to enhance management of resources and resource uses
- Resolve conflicts among resources and resource uses
- Meet the purpose of and need for the RMP
- Are feasible

The NEPA regulation at 40 CFR 1501.2(c) states that federal agencies shall “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” This pursuit provides the BLM and the public with an understanding of the diverse ways in which conflicts regarding resources and resource uses might be resolved, and offers the BLM State Director a reasonable range of alternatives from which to make informed decisions. The components and broad aim of each alternative considered for the Carson City RMP are discussed below.

2.3 ALTERNATIVE DEVELOPMENT PROCESS FOR THE CCD RMP

The CCD RMP interdisciplinary team employed the BLM planning process (outlined in **Table I-2**, BLM Planning Process) to develop a reasonable range of alternatives for the RMP. The RMP/EIS interdisciplinary team is composed of personnel from the BLM and EMPSi with expertise in all areas of resource

impact analysis. The steps in this process involved frequent reexamination following periods of public and staff review.

2.3.1 Identifying Planning Issues

The planning team developed preliminary planning issues to be addressed in the new RMP based on broad concerns or controversies related to conditions, trends, needs, and existing and potential uses of planning area lands and resources identified during review of current land management documents, including the 2001 Carson City Consolidated RMP and associated plan amendments (see **Table 1-3**, RMP Amendments and Other Documents Considered for Implementation-level Planning).

During public scoping between February 24, 2012, and April 29, 2012, the public was asked to comment on the preliminary planning issues and submit relevant issues not identified by the team. Also as a part of this issue identification process, the BLM sought input from cooperating agencies (see **Section 1.6**, Collaboration) and the Sierra Front-Northwestern Great Basin RAC. The CCD manager requested that the RAC appoint one member and one alternate of the RAC to represent the RAC during the RMP/EIS process. The cooperating agencies assisted in the development of the range of alternatives for the RMP/EIS and aimed to ensure that the alternatives adequately reflect public concern. The BLM planning team subsequently compiled the public input, cooperating agency feedback, and RAC input into 27 planning issues, listed in **Section 1.4.2**, Issue Identification.

2.3.2 Analyze the Management Situation

BLM resource specialists assessed existing RMP goals, objectives, and actions in relation to measurement tools (such as land health standards, biological assessments, NEPA actions, and fuel monitoring data) to gauge successes and deficiencies in addressing the planning issues. This assessment was compiled in the Analysis of the Management Situation for the Carson City planning area, providing information useful to the BLM for the purpose of:

- Summarizing existing conditions
- Explaining the need for change
- Identifying management opportunities

2.3.3 Develop a Reasonable Range of Alternatives

Between January 16, 2013, and May 9, 2013, the BLM interdisciplinary team met to develop management goals while small teams met to identify objectives and actions to address the goals within their fields of expertise. The various groups met numerous times throughout this period to refine their work. The interdisciplinary team developed one no action alternative (Alternative A) and four action alternatives. The action alternatives were designed to:

- Address the 27 planning issues compiled from public input, cooperating agency feedback, and RAC input
- Fulfill the purpose and need for the RMP (outlined in **Section 1.1**, Purpose of and Need for the Resource Management Plan)
- Meet the multiple use and sustained yield mandates of FLPMA

2.4 ALTERNATIVES CONSIDERED FOR DETAILED ANALYSIS

The four action alternatives (Alternatives B, C, D, and E) offer a range of possible management approaches. While the goals are the same across alternatives, each alternative contains a discrete set of objectives and management actions constituting a separate RMP. Each alternative addresses resource program goals to varying degrees, with the potential for different long-range outcomes and conditions.

The relative emphasis given to particular resources and resource uses differs as well, including allowable uses, restoration measures, and specific direction pertaining to individual resource programs. When resources or resource uses are mandated by law or are not tied to planning issues, there are typically few or no distinctions between alternatives.

Table 2-1, Comparative Summary of Alternatives, compares the meaningful differences in allocations among the five alternatives. **Table 2-2**, Description of Alternatives A, B, C, D, and E, describes the proposed decisions for each alternative, including goals, objectives, management actions, and allowable uses for individual resource programs. Figures in **Appendix A** provide a visual representation of differences between alternatives. In some instances, varying levels of management from different resource programs overlap. For example, the BLM proposes management for Hidden Cave, which is within the proposed Grimes Point Archeological ACEC. The ACEC management prescribes a no surface occupancy (NSO) stipulation for fluid mineral leasing under Alternative B; however, the Hidden Cave prescription calls for a controlled surface use (CSU) stipulation. In such instances where varying management levels overlap, the stricter management prescriptions would apply. However, if the Authorized Officer makes an exception to the stricter prescription, then the less strict management prescription would prevail.

GIS data have been used to perform acreage calculations and to generate the figures in **Appendix A**. Calculations are dependent upon the quality and availability of data, and most calculations in this RMP are rounded to the nearest 100 acres or 0.1 mile. Given the scale of the analysis, the compatibility constraints between datasets, and the lack of data for some resources, all calculations are approximate, and serve for comparison and analytic purposes only. Likewise, the figures in **Appendix A** are provided for illustrative purposes and are subject to the limitations discussed above. The BLM may receive additional or updated data; therefore, acreages may be recalculated and revised at a later date.

In **Chapter 4**, Environmental Effects, the proposed uses and restrictions discussed in this chapter were analyzed to determine where restrictions for one resource might provide indirect impacts (such as protection or restriction on use) for another resource not expressly described in this chapter.

2.4.1 Management Common to All Alternatives

Certain allowable uses and management actions from the existing RMPs remain valid and do not require revision. All of the proposed alternatives carry these forward, while other decisions are common only to the action alternatives (Alternatives B, C, D, and E).

Although each alternative is distinct in the resources and resource uses it emphasizes, all five alternatives do the following:

- Comply with state and federal laws, regulations, policies, and standards, including the FLPMA multiple use and sustained yield mandates.
- Implement actions originating from laws, regulations, and policies and conform to day-to-day management, monitoring, and administrative functions not specifically addressed.
- Preserve valid existing rights, which include any leases, claims, or other use authorizations established before a new or modified authorization, change in land designation, or new or modified regulation is approved. Existing fluid mineral leases are managed through Conditions of Approval (COAs) outlined in the RMP.
- Offer diverse recreational opportunities that foster outdoor-oriented lifestyles and enhance quality of life.
- Apply Best Management Practices (BMPs), Standard Operating Procedures (shown in **Appendix B**, Best Management Practices and Standard Operating Procedures), and other site-specific mitigation measures to all resource uses to promote rapid reclamation, maximize resource protection, and minimize soil erosion.
- Make every effort to avoid adverse impacts if cultural or paleontological sites are found at project locations. Consult with the SHPO and the Advisory Council on Historic Preservation in accordance with the State Protocol Agreement between the BLM and the Nevada SHPO, dated January 2012.
- Seek to enhance collaborative opportunities, partnerships, and communications with other agencies and interested parties to implement the RMP, including education and outreach and project-specific activities.

- Apply the exceptions, modifications, and waivers for fluid mineral leasing stipulations outlined in **Appendix C**, Fluid Mineral Leasing Stipulations, unless otherwise stated under a specific action.
- Identify and apply mitigation measures and conservation actions in order to achieve land use plan goals and objectives. The sequence of mitigation action will be the mitigation hierarchy (avoid, minimize, rectify, reduce or eliminate over time, compensate), as identified by the CEQ (40 CFR 1508.20) and the BLM's Draft Manual Section (MS)-1794, Regional Mitigation.
- The ROW avoidance and exclusion areas for renewable energy in this plan are in conformance with the Final Programmatic EIS for Solar Energy Development in Six Southwestern States, as reflected in the acres below in **Table 2-1**, Comparative Summary of Alternatives.

In addition to the shared elements above, **Table 2-2** indicates management actions common to all five alternatives by using a single cell across the table row.

2.4.2 Alternative A: No Action

Alternative A meets the NEPA requirement in 40 CFR 1502.14 that the BLM consider a no action alternative. This alternative provides the baseline against which to compare the other alternatives. This alternative would continue present management direction and practices based on existing LUPs and LUP amendments. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 2001 Consolidated RMP and subsequent LUP amendments. The current levels, methods, and mix of multiple use management of BLM-administered lands in the CCD decision area would continue, and resource values would continue to receive attention at present levels.

2.4.3 Alternative B

Alternative B emphasizes resource use and economic development (e.g., livestock grazing, energy, mineral development, and recreation) in the planning area. This alternative has the fewest restrictions to development and land use. Potential impacts on sensitive resources (e.g., soils and sensitive plant habitat) would be mitigated on a case-by-case basis. Sustainable development concepts are included to maintain economic productivity.

2.4.4 Alternative C

Alternative C would develop management strategies to preserve and protect ecosystem health and resource values across the planning area, while providing multiple uses. Resource development would be more constrained than under Alternatives B, D, or E, and in some cases and some areas, uses would be excluded to protect sensitive resources. This alternative includes the most special designations, with specific measures to protect or enhance resource

values within these areas. This alternative emphasizes active and specific measures to protect and enhance vegetation and habitat for special status species, fish, and wildlife. Likewise, this alternative would reflect a reduction in resource production goals for forage, renewable energy, and minerals. Resource production would generally be secondary to restoring and protecting important habitats, such as sagebrush and riparian areas. Sustainable development principles would focus on preserving ecological functions and environmental values.

2.4.5 Alternative D

Alternative D emphasizes the increased demand on BLM-administered lands within the urban interface area. The interface is a set of conditions that affect resources and how they can be managed, rather than a geographic place. It is an area or zone where human infrastructure and urban development meet or intermingle with undeveloped BLM-administered land. Enhanced community development through a change in land tenure would be reflected. Alternative D provides for increased management of recreational opportunities in areas of high use while reducing conflict between use of the BLM-administered land and adjacent private landowners. Specific measures would also be applied to manage for increased pressures on the land and a higher demand from the public while minimizing adverse effects on the local communities. Where management is not specified for the urban interface areas, the current management (represented by Alternative A) would continue.

2.4.6 Alternative E: Agency Preferred

Alternative E, Agency Preferred, represents a mix of management actions that best resolve the issues identified from the assessment of need for changing management, concerns raised during public scoping, and future management considerations. This alternative would reflect a combination of goals and objectives for all values and programs. This alternative emphasizes an intermediate level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. The management strategy would be accomplished by using a variety of proactive and prescriptive measures that would protect vegetation and habitat and would promote the continuation of multiple-use management. Vegetation and special status species habitat would be restored and enhanced to provide for the continued presence of an ecologically healthy ecosystem using a suite of proactive and specific prescriptive management tools and implementation measures. Commodity and development-based resources such as livestock grazing and minerals production would be maintained on BLM-administered lands through specific actions to meet resource goals and protect ecosystem health. Management strategies would continue to provide for recreational opportunities on and access to BLM-administered lands and would take into consideration the result of management actions on the economies of communities within the region and user conflicts.

Table 2-1
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Resources					
Wild Horses and Burros (acres)					
Herd Areas/Herd Management Areas	1,235,200	996,500	1,090,000	996,500	1,070,200
Visual Resource Management (VRM) (acres)					
VRM Class I	564,100	564,100	981,900	564,100	564,100
VRM Class II	38,300	56,800	733,900	66,400	513,600
VRM Class III	320,600	1,379,400	213,400	185,900	1,383,900
VRM Class IV	385,700	2,803,000	2,874,100	3,986,900	2,341,700
Undesignated	3,494,900	0	0	0	0
Total	4,803,300	4,803,300	4,803,300	4,803,300	4,803,300
Resource Uses					
Livestock Grazing (acres)					
Available for livestock grazing	4,796,600	4,797,200	2,101,300	4,792,600	4,797,200
Not available for livestock grazing	6,700	6,100	2,702,000	10,700	6,100
Special Recreation Management Areas (SRMAs) (acres)					
Alpine	7,600	5,800	10,700	7,400	7,700
Dead Camel Mountain	N/A	16,800	N/A	37,400	37,400
Hungry Valley	N/A	21,600	N/A	21,800	16,200
Sand Mountain	N/A	7,400	3,900	N/A	19,700
Walker Lake	60,100	24,000	60,100	N/A	24,600
Wilson Canyon	N/A	500	N/A	500	520
Total	67,700	76,100	74,700	67,100	106,100
Extensive Recreation Management Areas (ERMAs) (acres)					
Bagley Valley	N/A	N/A	2,600	N/A	2,600
Dry Valley	N/A	N/A	84,100	N/A	83,000
Faye-Luther	N/A	N/A	40	600	110
Middlegate	N/A	268,700	195,300	N/A	268,700
Mina	N/A	824,700	486,400	N/A	824,700
Mustang	N/A	400	400	400	400
Pah Rah	N/A	20,000	20,000	20,000	20,000
Peterson	N/A	N/A	42,200	N/A	42,200
Pine Nut	N/A	201,100	201,100	201,100	201,100
Reno Urban Interface	N/A	70,600	91,000	70,400	70,600
Salt Wells	N/A	292,700	113,700	N/A	280,400
Singatse	N/A	N/A	174,900	N/A	174,900
Virginia Mountains	N/A	N/A	68,100	N/A	68,100
Virginia Range	N/A	N/A	48,800	N/A	48,800
102 Ranch	N/A	120	120	120	120
Total	0	1,678,320	1,528,760	292,620	2,085,730
Comprehensive Travel and Transportation (acres)					
Open to motorized and mechanized travel	3,840,300	95,300	1,300	22,700	55,700
Closed to motorized and mechanized travel	6,900	4,300	598,000	1,600	6,200
Closed to motorized travel (mechanized limited to existing routes)	31,800	26,700	1,190,500	30,600	24,100

Table 2-1
Comparative Summary of Alternatives¹

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Limited to existing routes for motorized and mechanized travel	924,300	4,677,000	3,013,500	4,748,400	4,717,300
Fluid Mineral Leasing (acres)					
Closed to fluid mineral leasing	839,100	768,500	2,081,700	737,000	1,007,200
Open to fluid mineral leasing	3,964,200	4,034,700	2,721,500	4,066,200	3,796,000
Open with NSO stipulations	700	404,600	1,039,200	864,800	1,151,600
Open with CSU stipulations	N/A	2,120,200	1,242,800	2,071,400	1,844,900
Nonenergy Leasable Minerals (acres)					
Closed to nonenergy leasable mineral exploration and development	738,800	981,900	2,960,800	981,900	1,785,900
Open for consideration of nonenergy leasable mineral exploration or development	4,064,500	3,821,300	1,842,400	3,821,300	3,017,400
Locatable Minerals (acres)					
Withdrawn from locatable mineral entry	194,900	194,900	194,900	194,900	194,900
Petitioned for withdrawal from locatable mineral entry	3,700	439,600	117,500	440,800	470,600
Mineral Materials (acres)					
Closed to mineral material entry	564,200	807,200	3,004,800	807,700	1,778,700
Open to mineral material entry	4,239,100	3,996,100	1,798,400	3,995,600	3,024,600
Lands and Realty (acres)					
Right-of-way (ROW) exclusion areas	564,100	580,000	2,675,800	564,100	605,900
ROW avoidance areas	N/A	1,195,800	369,300	1,226,100	1,448,200
Identified for disposal	179,700	273,300	0	332,500	267,200
Renewable Energy (Solar and Wind) (acres)					
Variance areas for utility-scale solar (greater than 20 megawatts)	905,900	773,400	578,400	672,100	629,900
Exclusion areas for wind energy development	N/A	N/A	2,073,200	N/A	629,900
Avoidance areas for wind energy development	N/A	1,220,200	0	1,228,100	956,900
Special Designations					
Areas of Critical Environmental Concern (ACECs) (acres)					
Black Mountain/Pistone Archaeological District ACEC (Proposed)	N/A	3,400	3,400	3,100	N/A
Carson Wandering Skipper ACEC (Existing)	330	N/A	330	N/A	N/A
Churchill Narrows Buckwheat Botanical ACEC (Proposed)	N/A	6,600	6,600	6,600	6,600
Clan Alpine Greater Sage-Grouse ACEC (Proposed)	N/A	N/A	98,400	N/A	N/A
Desatoya Greater Sage-Grouse ACEC (Proposed)	N/A	N/A	105,100	N/A	N/A
Dixie Valley Toad ACEC (Proposed)	N/A	N/A	410	N/A	N/A
Fox Peak Cultural ACEC (Proposed)	N/A	48,400	48,400	48,400	49,000
Greater Sand Mountain ACEC (Proposed)	N/A	17,000	17,000	N/A	N/A
Grimes Point Archaeological District ACEC (Proposed)	N/A	15,900	15,900	15,900	2,100

**Table 2-1
Comparative Summary of Alternatives¹**

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Incandescent Rocks Scenic ACEC (Existing)	1,100	1,100	1,100	1,100	1,100
Lassen Red Rock Scenic ACEC (Proposed)	N/A	N/A	800	N/A	N/A
Namazii Wunu Cultural ACEC (Proposed)	N/A	158,300	158,300	N/A	N/A
Pah Rah High Basin Petroglyph ACEC (Existing)	3,900	5,300	5,300	5,300	5,300
Pine Nut Bi-State Sage-Grouse ACEC (Proposed)	N/A	N/A	100,400	N/A	N/A
Ruhenstroth Paleontological ACEC (Proposed)	N/A	2,300	2,300	2,300	2,300
Pine Nut Mountains Williams Combleaf Botanical ACEC (Proposed)	N/A	N/A	330	330	N/A
Sand Springs Desert Study Area ACEC (Proposed)	N/A	N/A	50	N/A	N/A
Steamboat Buckwheat Botanical (Proposed)	N/A	N/A	80	N/A	N/A
Steamboat Hot Springs Geyser Basin (Existing)	40	N/A	N/A	N/A	N/A
Stewart Valley Paleontological (Existing)	15,900	15,900	15,900	N/A	15,900
Tagim aša Cultural ACEC (Proposed)	N/A	81,800	81,800	81,800	N/A
Virginia City National Landmark Historic District (Proposed)	N/A	14,700	14,700	14,700	N/A
Virginia Mountains Greater Sage-Grouse ACEC (Proposed)	N/A	N/A	109,200	N/A	N/A
Virginia Range Williams Combleaf Botanical (Existing)	470	470	470	470	470
Total	21,800	371,170	786,270	180,000	82,770
Wilderness Study Areas (WSAs) (acres)					
Augusta Mountains	46,400	46,400	46,400	46,400	46,400
Burbank Canyons	12,700	12,700	12,700	12,700	12,700
Carson Iceberg	500	500	500	500	500
Clan Alpine	195,700	195,700	195,700	195,700	195,700
Desatoya Mountains	42,200	42,200	42,200	42,200	42,200
Gabbs Valley Range	80,500	80,500	80,500	80,500	80,500
Job Peak	89,400	89,400	89,400	89,400	89,400
Slinkard	2,400	2,400	2,400	2,400	2,400
Stillwater Range	94,200	94,200	94,200	94,200	94,200
Total	564,000	564,000	564,000	564,000	564,000
National Trails on BLM-administered land (miles)					
Pony Express National Historic Trail	92	92	92	92	92
California National Historic Trail	25	25	25	25	25
Eligible or Suitable Wild and Scenic River (WSR) Study Segments (acres crossing BLM-administered land)²					
East Fork Carson River Segment 1	N/A	N/A	400	400	400
East Fork Carson River Segment 2	N/A	N/A	400	400	400
East Fork Carson River Segment 3	N/A	N/A	600	600	600
Total	N/A	N/A	1,400	1,400	1,400

**Table 2-1
Comparative Summary of Alternatives¹**

Resource or Resource Use	Alt A	Alt B	Alt C	Alt D	Alt E
Back Country Wildlife Conservation Areas (acres)					
Gillis West	N/A	N/A	42,500	N/A	N/A
Gillis East	N/A	N/A	63,900	N/A	N/A
Gabbs Valley Range North	N/A	N/A	50,800	N/A	N/A
Gabbs Valley Range South	N/A	N/A	154,400	N/A	N/A
Pilot Mountains	N/A	N/A	93,700	N/A	N/A
Excelsiors	N/A	N/A	125,800	N/A	N/A
Fairview	N/A	N/A	131,400	N/A	N/A
Sand Springs	N/A	N/A	53,700	N/A	N/A
Clan Alpine	N/A	N/A	101,600	N/A	N/A
Total	N/A	N/A	817,800	N/A	N/A
Lands with Wilderness Characteristics (acres)					
Agai Pah Hills	N/A	N/A	27,200	N/A	27,200
Chukar Ridge	N/A	N/A	29,100	N/A	29,100
Excelsior North	N/A	N/A	54,400	N/A	54,400
Excelsior South	N/A	N/A	49,200	N/A	49,200
Finger Rock	N/A	N/A	41,500	N/A	N/A
Job South	N/A	N/A	77,400	N/A	77,400
Lyon Peak	N/A	N/A	16,300	N/A	N/A
Monte Cristo North	N/A	N/A	9,800	N/A	N/A
Peterson Mountain	N/A	N/A	16,300	N/A	N/A
Rawe Peak	N/A	N/A	39,800	N/A	39,800
Stillwater Additions	N/A	N/A	19,100	N/A	19,100
Tule Peak	N/A	N/A	36,400	N/A	36,400
Total	N/A	N/A	416,500	N/A	332,600

¹Acres were GIS generated and rounded to the nearest hundred acres. Includes BLM-administered and non-BLM-administered land in the CCD and outside of the CCD where the associations make up larger geographic areas for managing wild horses and burros.

²Alternative A identifies 3 segments of the East Fork Carson River as eligible for inclusion in the National Wild and Scenic River System (NWSRS), whereas Alternatives C, D, and E would determine these 3 river segments as suitable for inclusion in the NWSRS. Alternative B would determine that the eligible segments are not suitable for inclusion in the NWSRS and release them from interim management afforded to eligible segments.

2.5 ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

The following alternatives were considered but eliminated from detailed study because they do not meet the purpose of and need for the RMP (see **Section 1.1**, Purpose of and Need for the Resource Management Plan) or because they do not fall within technical, legal, or policy constraints for BLM resources and resource uses.

2.5.1 Implement Recreation-Centered Alternative

An alternative that proposes to meet increased demand for motorized recreation on BLM-administered lands within the planning area was considered

but dismissed from detailed analysis. Because the FLPMA mandates that BLM-administered lands be managed for multiple use and sustained yield, alternatives that promote exclusive use or maximum development, production, or protection of one resource at the expense of other resources or resource uses were eliminated from further consideration.

Each proposed alternative allows for some level of support, protection, or use of all resources in the planning area. In some instances, the alternatives include various considerations for eliminating or maximizing individual resource values or uses in specific areas where conditions warrant. In addition, one of the main considerations for Alternative D is enhanced recreational opportunities within the urban interface area where the majority of the recreation use is occurring in the CCD.

2.5.2 Close Entire Decision Area to Livestock Grazing

The BLM considered but did not analyze in detail an alternative that would make all 4,803,300 acres of BLM-administered land in the planning area unavailable for livestock grazing because such an alternative is not reasonable, viable, or necessary in light of resource conditions and the BLM's consideration of a range of alternatives that includes a meaningful reduction in livestock grazing. Livestock grazing is a well-established use within the BLM's multiple-use mandate under the FLPMA and a traditional use of the planning area. The BLM issues and administers grazing leases or permits in the planning area in accordance with the laws applicable to the issuance and administration of such leases and permits on other lands under BLM jurisdiction. Management of livestock grazing in the RMP, including proposed reductions and closures, were based on criteria developed for each alternative. The criteria outlined include, but are not limited to, allotments not meeting land health standards, allotments containing sage-grouse habitat (when habitat makes up 50 percent or more of the allotment), ACECs, and habitat for threatened and endangered species. Additional criteria were outlined to adjust forage allocations for livestock. Some of these criteria include areas not accessible to livestock, unstable or highly erodible soils, areas greater than 2 miles from water, unique habitats such as jurisdictional wetlands and springs, and areas that receive high levels of recreational use.

During this planning process, including public scoping, the BLM did not identify issues or conflicts that can only be resolved through the elimination of all livestock grazing throughout the decision area. Where appropriate, the preclusion or adjustment of livestock use within an allotment or area was incorporated into the alternatives to address issues noted above. This resulted in a reduction in animal unit months (AUMs) and the amount of BLM-administered land available for livestock grazing in all alternatives, with the greatest meaningful reduction in Alternative C.

In all alternatives, the BLM would be able to adjust livestock grazing permits (e.g., AUMs, acres, and period of use) based on monitoring, land health assessments, and land health standards. Permit terms and conditions could also be modified in all alternatives.

For these reasons, the no grazing alternative for the entire planning area was dismissed from further consideration.

2.6 CONSIDERATIONS IN SELECTING A PREFERRED ALTERNATIVE

The proposed alternatives offer a range of discrete strategies for resolving deficiencies in existing management, exploring opportunities for enhanced management, and addressing issues identified through internal assessment and public scoping. Comments submitted by other government agencies, public organizations, state and tribal entities, and interested individuals were given careful consideration. Public scoping efforts enabled the BLM to identify and shape significant issues pertaining to wild horse and burros, potential ACECs, land with wilderness characteristics, public land access, restoring ecological health, wildlife habitat, cultural resources, land tenure, and other program areas. Cooperating agencies reviewed the alternatives and provided comments during the alternative development process, and the RAC Subgroup was provided updates during ongoing RAC meetings.

NEPA regulations developed by the CEQ require the BLM to identify a preferred alternative in the Draft RMP/EIS. Formulated by the interdisciplinary team, the proposed alternative represents those goals, objectives, and actions determined to be most effective at resolving planning issues and balancing resource use. Collaboration was critical in developing and evaluating alternatives; however, the final designation of a preferred alternative remains the exclusive responsibility of the BLM.

2.6.1 Recommendation and Resulting Actions

The district manager recommends Alternative E as the preferred alternative. During public review of this Draft RMP/EIS, the BLM is seeking constructive input regarding the proposals for managing resources and resource uses. After considering these comments, the BLM will develop a Proposed RMP to be evaluated in the Final EIS.

2.7 MANAGEMENT GUIDANCE FOR ALTERNATIVES A, B, C, D, AND E

Table 2-2 is a description of all decisions proposed for each alternative, including goals and objectives. All decisions in **Table 2-2** are LUP-level decisions, with the exception of some implementation-level decisions. Implementation-level decisions will be identified in the Proposed RMP/Final EIS.

NSO, CSU, and timing limitations (TL) are stipulation decisions and apply to fluid mineral leasing and development of federal mineral estate underlying BLM-administered lands, privately owned lands, and state-owned lands, but not National Forest System lands.

Acreages for alternatives in this chapter are calculated based on current information and may be adjusted in the future through RMP maintenance as conditions warrant.

2.7.1 How to Read Table 2-2

The following describes how **Table 2-2** is written and formatted to show the LUP decisions proposed for each alternative. Refer to the diagram on the next page for an example of how to read **Table 2-2**.

- Per Appendix C of BLM Land Use Planning Handbook H-1601-1, land use plan decisions are broad-scale decisions that guide future land management actions and subsequent site-specific implementation decisions. LUP decisions fall into two categories that establish the base structure for **Table 2-2**: desired outcomes (goals and objectives) and allowable uses and actions to achieve outcomes.
 - *Goals* are broad statements of desired outcomes and management direction that usually are not quantifiable.
 - *Objectives* identify specific desired outcomes for resources. Objectives may be quantifiable and measurable and may have established timeframes for achievement, as appropriate.
 - *Actions* identify measures or criteria to achieve desired outcomes (i.e., objectives), including actions to maintain, restore, or improve land health.
 - *Allowable uses* identify uses, or allocations, that are allowable, restricted, or prohibited on BLM-administered lands and mineral estate.
 - *Stipulations* (NSO, CSU, TL), which fall under the allowable uses category, are applied to fluid mineral leases to achieve desired outcomes (i.e., objectives).
- In general, only those resources and resource uses that have been identified as planning issues have notable differences between the alternatives.
- Actions that are applicable to all alternatives are shown in one cell across a row. These particular objectives and actions would be implemented, regardless of which alternative is ultimately selected.
- Actions that are applicable to more than one but not all alternatives are indicated by either combining cells for the same alternatives, or by denoting those objectives or actions as the “same as Alternative B,” for example.

**Diagram 2-1
How to Read Table 2-2**

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
27.	Water Resources				
28.	GOAL: Maintain and improve existing water quality by ensuring that all authorized uses comply with State water quality standards				
29.	Action common to all: The Navy and BLM will not allow access to the subsurface by drilling or any other means and/or removal of any subsurface material from the Shoal Site without thorough evaluation and coordination with Department of Energy.				
30.	Objective: Maintain or enhance water quality and availability on public lands in the field office Area of jurisdiction.	Objective: Maintain or improve water quality and availability by ensuring that all authorized uses comply with State water quality standards.	Objective: Maintain or improve water quality and availability by ensuring that all authorized uses comply with State water quality standards and with AIM for the upland springs and seeps. When specific, class waters, and/or beneficial uses do not exist, use default indicators described in Technical Reference 1734-6 (or newer version in the future).	Objective: Same as Alternative C.	
31.	Action: Retain public lands within 100-year flood plain boundaries. Authorize development within 100-year flood plain only if consistent with existing federal, state and local government restrictions.	Action: No similar action.	Action: Evaluate and manage for water conservation (flood and drought protection) through land acquisitions and restorations projects.	Action: Evaluate and manage for water conservation (flood and drought protection) through land acquisitions, restoration projects, and public outreach and education.	Action: Same as Alternative D.

Row numbers provided for quick reference and commenting.

Where an action in one or more alternative does not apply to another, for example, Alternative B, it states "No similar action."

Goals, objectives, or actions that are applicable to more than one alternative are indicated by combining cells for the same alternative

Air Quality (p. 18)	Geology and Minerals (p. 116)	Renewable Energy (p. 215)
Areas of Critical Environmental Concern (p. 217)	Interpretation and Education (p. 263)	Soils and Water Resources (p. 23)
Back Country Byways (p.242)	Lands and Realty (p. 186)	Special Status Species (p. 58)
Back Country Wildlife Conservation Areas (p. 254)	Lands with Wilderness Characteristics (p. 100)	Tribal Interests (p. 257)
Caves and Cave Resources (p.103)	Livestock Grazing (p. 109)	Vegetation (p. 30)
Climate Change (p. 21)	National Historic Trails (p. 245)	Visual Resources (p. 93)
Comprehensive Travel and Transportation (p. 175)	National Recreation Trails (p. 249)	Wild and Scenic Rivers (p. 252)
Cultural Resources (p. 81)	Paleontological Resources (p. 91)	Wild Horses and Burros (p. 72)
Fish and Wildlife (p. 49)	Public Health and Safety (p. 260)	Wilderness Study Areas (p. 250)
Forest and Woodland Products (p. 107)	Recreation and Visitor Services (p. 138)	Wildland Fire Ecology and Management (p. 77)

DRAFT ALTERNATIVE DEFINITION LANGUAGE

Alternative A, referred to as the **No Action Alternative**, provides the baseline against which to compare the other alternatives. This alternative would continue present management practices based on existing LUP and LUP amendments. Direction contained in existing laws, regulations, policies, and standards would also continue to be implemented, sometimes superseding provisions of the 2001 Consolidated RMP and subsequent LUP amendments. The current levels, methods, and mix of multiple use and sustained yield management of BLM-administered lands in the CCD would continue, and resource values would continue to receive attention at present levels.

Alternative B emphasizes **resource use/economic development** (e.g., livestock grazing, energy, mineral development, and recreation) in the planning area. This alternative has the fewest restrictions to development and land use. Potential impacts on sensitive resources (e.g., soils and sensitive plant habitat) would be mitigated case by case. Sustainable development concepts are included to maintain economic productivity.

Alternative C would develop management strategies to **preserve and protect** ecosystem health and resource values across the planning area, while providing multiple uses. Resource development would be more constrained than under Alternatives B, D, or E, and in some cases and some areas, uses would be excluded to protect sensitive resources. This alternative includes the most special designations, with specific measures to protect or enhance resource values within these areas. This alternative emphasizes active and specific measures to protect and enhance vegetation and habitat for special status species, fish, and wildlife. Likewise, this alternative would reflect a reduction in resource production goals for forage, renewable energy, and minerals. Resources production would generally be secondary to restoring and protecting important habitats, such as sagebrush and riparian areas. Sustainable development principles would focus on preserving ecological functions and environmental values.

Alternative D emphasizes the **increased demand on BLM-administered lands within the urban interface area**. The interface is a set of conditions that affect resources and how they can be managed. It is an area or zone where human infrastructure and urban development meet or intermingle with public land. Enhanced community development through a change in land tenure would be reflected. Alternative D provides for increased management of recreational opportunities in areas of high use while reducing conflict between use of the BLM-administered land and adjacent private

landowners. Specific measures would also be applied to manage for increased pressures on the land and a higher demand from the public while minimizing adverse effects on the local communities. Where management is not specified for the urban interface areas, the current management represented by Alternative A would continue.

Alternative E represents a **mix and variety of management actions** that best resolve the issues identified from the assessment of need for changing management, concerns raised during public scoping, and future management considerations. This alternative would reflect a combination of goals and objectives for all values and programs. This alternative emphasizes an intermediate level of protection, restoration, enhancement, and use of resources and services to meet ongoing programs and land uses. The management strategy would be accomplished by using an array of proactive and prescriptive measures that would protect vegetation and habitat and would promote the continuation of multiple-use management. Vegetation and special status species habitat would be restored and enhanced to provide for the continued presence of an ecologically healthy ecosystem using a suite of proactive and specific prescriptive management tools and implementation measures. Commodity and development-based resources such as livestock grazing and minerals production would be maintained on BLM-administered lands through specific actions to meet resource goals and protect ecosystem health. Management strategies would continue to provide for recreational opportunities and access to and on BLM-administered lands and would take into consideration the result of management actions on the economies of communities within the region and user conflicts.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
1.	RESOURCES				
2.	Air Quality				
3.	GOAL: Maintain existing air quality and air quality related values (e.g., visibility) by ensuring that all authorized uses on BLM-administered lands comply with and support federal, state, and local laws and regulations for protecting air quality.				
4.	<p>Action common to all alternatives:</p> <ul style="list-style-type: none"> • Comply with Nevada Revised Statutes 445B.100 through 445B.825 and Nevada Revised Statutes 486A.010 through 486A.180. Additionally, comply with the State of California's Air Resources Board standards for criteria air pollutants on California lands, and with the Clean Air Act. The best air quality control technology, as per guidance from the Bureau of Air Quality Planning or California's Air Resources Board, would be applied to actions as needed to meet air quality standards. • Comply with Bureau of Air Quality Planning, which prohibits the use maintenance, or construction of roadways without taking appropriate dust abatement measures. Compliance would be obtained through special stipulations as a requirement on new projects and through the use of dust abatement control techniques in problem areas. • Comply with the current Smoke Management Memorandum of Agreement between the BLM, Forest Service, Bureau of Air Quality Planning, Great Basin Unified Air Pollution Control District, and Washoe County Health District, as well as Title 17 of the California Code of Regulations. Application of Smoke Management MOU requires reporting size, date of burn, fuel type, and estimated air emissions for each prescribed burn. • Conduct prescribed burns consistently with the State of Nevada Division of Environmental Protection, Bureau of Air Pollution Control or the California's Air Resources Board permitting process and timed to minimize smoke impacts. • Manage all BLM and BLM-authorized activities to maintain air quality within the thresholds established by the State of Nevada Air Quality Standards, National Ambient Air Quality Standards (NAAQS), and California's Air Resources Board for California lands, to ensure that those activities continue to keep as attainment¹, and meet prevention of significant deterioration (PSD) Class II standards. • Coordinate with local governments for compliance with local ordinances for projects that require local permitting. <p>¹Washoe County is currently listed as being in nonattainment for particulate matter less than 10 microns in diameter (PM₁₀) values.</p>				
5.	Objective: Maintain air quality standards through case by case review of activities on BLM-administered lands.				
6.	Action: No similar action.	Action: Minimize adverse impacts on air quality from BLM and BLM-authorized activities by implementing BMPs and mitigation measures on a case-by-case basis.	Action: Same as Alternative B.		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
7.	Action: Authorized activities will be reviewed to determine appropriate measures or stipulations to enhance positive and reduce negative air quality impacts.	Action: No similar action.			
8.	Action: Air quality will be protected through compliance with the Clean Air Act of 1990 and all federal, state, and local emission standards for air quality. Section 176(c) of the Clean Air Act 42 (USC 7506) states that, “No department, agency or instrumentality of the federal Government shall engage in, support in any way, or provide federal assistance for, license or permit, or approve any activity that does not conform to an implementation plan after it has been promulgated under section 110 of the Clean Air Act.”	Action: No similar action.			
9.	Action: Limit any BLM development, authorized activity, or land treatment so not to exceed a 50 percent reduction in ground cover in High	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Erosion Susceptibility Areas. Exceptions include water stabilization projects designed to promote vegetative cover, “open” off-highway vehicle (OHV) designations on Prison Hill, North Flannigan, Pah Rah Mountains, McClellan Peak, and East Churchill Canyon, nondiscretionary mining and prospecting activities, lands disposal in High Erosion Susceptibility Areas, green firewood cutting in Bailey Canyon High Erosion Susceptibility Area and Christmas tree cutting in the Brunswick Canyon.				
10.	Action: Limit OHV use to designated roads and trails in areas of severe erosion hazard susceptibility and in watersheds where OHV use is causing flood and sediment problems. The areas to be limited include: Petersen Mountain, Warm Springs, Hungry Valley, Sun Valley, Jumbo/Geiger Grade, Portions of Prison, and Hill Mullen Pass.	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
11.	Climate Change				
12.	GOAL: Conserve habitat to support healthy fish, wildlife, and plant populations and ecosystem functions in a changing climate.				
13.	Objective: No similar objective.	Objective: Enhance capacity for effective management in a changing climate and reduce non-climate stressors to help fish, wildlife, plants, and ecosystems adapt to a changing climate.			
14.	Action: No similar action.	Action: If feasible, identify and develop further actions for primary non-climate stressors through climate adaptation scenario planning workshops with local stakeholders, or utilize results from other scenario planning efforts currently being conducted by the Great Basin Landscape Conservation Cooperative within the Central Basin and Range Ecoregion.			
15.	Action: No similar action.	Action: Incorporate when appropriate current climate policy and adaptation strategies, climate science, and appropriate decision support tools when evaluating land use authorization decisions through the NEPA process.			
16.	Action: No similar action.	Action: Consider current and potential climate change-induced threats to BLM special status species and ecosystems functions. Prioritize habitat treatments to remove existing threats that may exacerbate the negative effects of climate change on BLM special status species and ecosystem functions.	Action: Assess current and potential climate change-induced threats to BLM special status species and ecosystems functions. Prioritize habitat treatments to remove existing threats that may exacerbate the negative effects of climate change on BLM special status species and ecosystem functions. Conserve habitat to ensure adequate conditions.	Action: Assess current and potential climate change-induced threats to BLM special status species and ecosystems functions. Prioritize habitat treatments to remove existing threats that may exacerbate the negative effects of climate change on BLM special status species and ecosystem functions. Develop proactive steps that can be taken to mitigate the effects of climate change on BLM special status species and unique plant assemblages through community workshops, tribal consultations, and other organizations.	
17.	Objective: No similar objective.	Objective: Apply ecosystem-level climate adaptation management strategies where changing climate conditions necessitate (as indicated by changes to plant communities, drought conditions, and similar events).			
18.	Action: No similar action.	Action: Manage for connectivity between habitats and sustainability of resource uses by: <ul style="list-style-type: none">• Conducting quantitative monitoring to inform an adaptive management framework.• Utilize integrated monitoring protocols, such as the Assessment Inventory and Monitoring strategy, for terrestrial and aquatic indicators when available. Indicators include vegetation, animal species, and fire regime. These indicators are based on current available information and must be kept up to date with new information.• Consider the data and future forecasts/trends produced by the Central Basin and Range Rapid Ecoregional Assessment, including step-down recommendations or analysis updates.• Adaptive management strategies would identify specific climate change vulnerabilities. Scale would vary with			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>affected resources per project or resource use.</p> <ul style="list-style-type: none"> Collaborate with other agencies to develop cross-jurisdictional conservation plans to protect and restore connectivity and other landscape-scale components of resilience. 			
19.	Action: No similar action.	<p>Action: Manage for habitat resistance and resilience to climate stressors by:</p> <ul style="list-style-type: none"> Planning, evaluating, and diversifying management approaches for current / future need to facilitate transition to other ecosystem types where human-caused ecosystem stressors have crossed thresholds. 	<p>Action: Manage for habitat resistance and resilience to climate stressors by:</p> <ul style="list-style-type: none"> Reducing human-caused ecosystem stressors. Promoting habitat connectivity and integrity. As climate change data become available through Rapid Ecological Assessments or other ecological studies, identify areas on unfragmented Greater Sage-Grouse habitat and key habitat linkages that provide the life cycle and genetic transfer need for Greater Sage-Grouse. Manage the identified areas as Preliminary Priority Management Areas (PPMAs). Working cooperatively with multiple agencies and stakeholders to establish and maintain a network of climate monitoring sites and stations. 	Action: Same as Alternative B.	Action: Same as Alternative C.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
20.	Soils and Water Resources				
21.	GOAL: Manage soils and water resources to maintain watershed health, enhance ecosystem health, and provide for public uses while insuring ecological diversity and sustainability.				
22.	Actions common to all <ul style="list-style-type: none">• Maintain satisfactory watershed conditions as indicated by maintenance of proper functioning conditions and Standards for Rangeland Health and Guidelines for Grazing Management (Appendix D) and Guidelines for Grazing and Standards for Public Health and Guidelines for Recreation Management for BLM-administered lands.• Allotment management plans will be used in combination with standards and guides.• Define watershed function so the BLM can manage for and make decisions based on cumulative effects within watersheds and or neighboring watersheds.• Any proposed activities that are located in sensitive soils (e.g., hydric, saline, biological crusts, or highly erodible soils, as shown in (Figure 2-2) would incorporate BMPs and other mitigation measures to minimize soil erosion and maintain soil stability.• Collaborate with federal agencies, tribal governments, the States of Nevada and California, counties, and local municipalities on management of municipal watersheds to meet local needs and on the management of water resources within the CCD, taking into account local land use planning policies.				
23.	Objective: Reduce soil loss and associated flood and sediment damage on BLM-administered lands caused by accelerated wind and water erosion due to human actions.	Objective: Reduce soil loss and associated flood and sediment damage caused by accelerated wind and water erosion due to ground-disturbing activity.			
24.	Action: No similar action.	Action: Maintain and improve vegetation cover in areas of high erosion potential (Figure 2-2) by applying soil amendments or requiring a growth medium.	Action: Improve vegetative cover by increasing litter, biological soil crust and vegetation as appropriate for soil type. Minimize breaking up or shearing of biological crusts.	Action: Same as Alternative C plus: utilize deep-rooted stabilizing vegetation including native and nonnative plants in order to improve the soil surface.	
25.	Action: No similar action.	Action: During surface-disturbing activities, stockpile topsoil or the best available material for growth medium for reuse	Action: During surface-disturbing activities, stockpile topsoil or the best available material for growth medium for reuse during reclamation. If reclamation is not scheduled to be completed within 1 year, stockpiles must have mulch applied to prevent the loss and degradation of the stockpiled topsoil. If reclamation is not scheduled to be completed within 2 years, stockpiles must be seeded to prevent the loss and degradation of the		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		during reclamation.	stockpiled topsoil or the best available material for growth medium.		
26.	Action: Limit any BLM development, authorized activity, or land treatment so not to exceed a 50 percent reduction in ground cover in High Erosion Susceptibility Areas. Exceptions include water stabilization projects designed to promote vegetative cover; open OHV designations on Prison Hill, North Flannigan, Pah Rah Mountains, McClellan Peak, and East Churchill Canyon; nondiscretionary mining and prospecting activities; lands disposal in High Erosion Susceptibility Areas; green firewood cutting in Bailey Canyon High Erosion Susceptibility Area; and Christmas tree cutting in the Brunswick Canyon.	Action: No similar action (addressed within other actions in this section).			
27.	Action: Limit OHV use to designated roads and trails in areas of severe erosion hazard susceptibility and in watersheds where OHV use is causing flood and sediment problems. The areas to be limited include:	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Petersen Mountain, Warm Springs/Hungry Valley, Sun Valley, Jumbo/Geiger Grade, portions of Prison and C Hill, and Mullen Pass.				
28.	Action: No similar action.	Action: If surface-disturbing activities cannot be avoided on slopes greater than 30 percent, an erosion control plan would be required. The plan must be approved by the BLM prior to construction and maintenance and include the following: <ul style="list-style-type: none"> • An erosion control strategy (see <i>Wildland Fire Ecology and Management</i>). • BLM-approved survey, design, and engineering plans. 	Action: If surface-disturbing activities cannot be avoided on slopes between 21 percent and 39 percent, an erosion control plan would be required. The plan must be approved by the BLM prior to construction and maintenance and include the following: <ul style="list-style-type: none"> • An erosion control strategy (see <i>Wildland Fire Ecology and Management</i>). • BLM-approved survey, design, and engineering plans. <p>Prohibit surface disturbance on slopes greater than 40 percent. If it is determined that it would cause undue or unnecessary degradation at slopes lower than 40 percent, placement alternatives would be pursued. An erosion control plan would be required.</p>		
29.	Action: No similar action.	Action: Apply a CSU stipulation for fluid mineral leasing to lands with slopes greater than 15 percent and less than 50 percent and NSO stipulations for lands with slopes greater than 50 percent (as mapped on US Geological Survey [USGS] 1:24,000 scale topographic maps or as determined by the BLM).			
30.	Action: No similar action.	Action: Apply a CSU stipulation for fluid mineral leasing to lands with a severe soil wind or water erosion hazard rating (as designated by NRCS soil survey data when available).			
31.	Objective: No similar objective.	Objective: Manage watershed to promote natural hydrologic pathways and residence times.			
32.	Action: Critical or at-risk watersheds will be delineated as necessary in order to give these areas special consideration in	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	activity plan development, with the goal of preventing accelerated soil loss and watershed degradation, associated flood and sediment damage to private property or adjacent lands, or to prevent destruction of important wildlife habitat. Delineate high erosion hazard and/or flood-prone areas within the urban interface areas.				
33.	Action: No similar action.	Action: Identify and maintain a listing of priority watersheds and priority water supply areas based on the following criteria: <ul style="list-style-type: none"> • Watersheds with threatened and endangered species habitat (occupied and recovery streams). • Presence of well head protection zones as defined in community well head protection plans, in accordance to the State of Nevada's well head protection program. • Watersheds that serve as important source 	Action: Manage priority watersheds (defined in Alternative B) and protect habitat containing threatened and endangered species habitat (occupied and recovery) as follows: <ul style="list-style-type: none"> • Close to mineral material disposals (except for government use at the Authorized Officer's discretion). • Close to nonenergy solid mineral leasing. • Apply a NSO stipulation for fluid mineral leasing. • Manage as a ROW exclusion area. 	Action: Protect priority watersheds (defined in Alternative B) containing municipal water supply within 1,000 feet radius of municipal well heads (Figure 2-3) as follows: <ul style="list-style-type: none"> • Close to mineral material disposals. • Close to nonenergy mineral leasing. • Apply a NSO stipulation for fluid mineral leasing. • Manage as a ROW exclusion area. <p>The Authorized Officer may consider allowing surface disturbance and/or surface occupancy in priority watersheds on a case-by-case basis based on the project meeting one of the following management criteria:</p> <ul style="list-style-type: none"> • Recognition of valid existing rights. • A determination made through consultation with USFWS. • Determination that the proposed actions and associated surface disturbance would: <ol style="list-style-type: none"> a. Protect, mitigate, or improve wildlife/fish habitat. 	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		areas for municipal and agricultural water supplies. Priority watersheds are identified on Figure 2-3.		b. Provide for public safety or local water supply. <ul style="list-style-type: none">• A proposed ROW and associated surface disturbance is located within a designated ROW corridor.• Surface disturbance defined as casual use.	
34.	GOAL: Maintain and improve existing water quality by ensuring that all authorized uses comply with state water quality standards.				
35.	Action common to all: The Navy and the BLM will not allow access to the subsurface by drilling or any other means and/or removal of any subsurface material from the Shoal Site without thorough evaluation and coordination with Department of Energy (Figure 2-4).				
36.	Objective: Maintain or enhance water quality and availability on BLM-administered lands.	Objective: Maintain or improve water quality and availability by ensuring that all authorized uses comply with state water quality standards.	Objective: Maintain or improve water quality and availability by ensuring that all authorized uses comply with state water quality standards and with Analysis Inventory and Monitoring for the upland springs and seeps. When specific, class waters, or beneficial uses do not exist, use default indicators described in Technical Reference 1734-6 (or current version).		
37.	Action: Retain BLM-administered lands within 100-year flood plain boundaries. Authorize development within 100-year flood plain only if consistent with existing federal, state, and local government restrictions.	Action: No similar action.	Action: Evaluate and manage for water conservation (flood and drought protection) through land acquisitions, land disposals and restorations projects.	Action: Evaluate and manage for water conservation (flood and drought protection) through land acquisitions, land disposals, restoration projects, and public outreach and education. Authorize development within 100-year flood plain only if consistent with existing federal, state, and local government restrictions.	
38.	Action: Eliminate OHV use in the following locations: <ul style="list-style-type: none">• Through or near enough to the any surface water source that its water quality or water quantity may be affected, such as a spring or seep.• Any riparian area	Action: No similar action (see <i>Comprehensive Travel and Transportation Management</i>).			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>associated with meadows, marshes, springs, seeps, ponds, lakes, reservoirs or streams.</p> <ul style="list-style-type: none"> Any channel bank, or streambed of a perennial stream. 				
39.	<p>Action: Limit or prohibit BLM and BLM-authorized activities in watersheds that are degrading, or in specific portions of those watersheds that are in the most immediate risk of degradation. These areas include but are not limited to the following: Northwest Reno, Sun Valley, Sparks, Virginia Foothills, East Washoe Valley, Pyramid Lake Area, Honey Lake Valley, and other critical watersheds.</p>	<p>Action: No similar action.</p>			
40.	<p>Action: No similar action.</p>	<p>Action: Acquire water rights as needed to provide sufficient quantity and quality water for multiple use and sustained yield land management activities consistent with state water laws.</p>	<p>Action: Acquire water rights as needed to provide sufficient quantity and quality water on BLM-administered lands with a priority on assuring healthy ecosystems and secondarily for multiple use and sustained yield land management activities consistent with state water laws.</p>	<p>Action: Same as Alternative B.</p>	<p>Action: Same as Alternative C.</p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
41.	Action: No similar action.	Action: Use land acquisition and other realty actions to acquire minimum pool and in stream flows or to gain access to water sources and developments for other resources (e.g., recreation, wildlife, fire protection, road and trail maintenance, and aquatic habitat).	Action: Use land acquisition and other realty actions to acquire minimum pool and in stream flows or to gain access to water sources and developments for wildlife habitat.	Action: Same as Alternative B.	
42.	GOAL: Ensure BLM-administered lands are capable of providing long-term sustainable water for local community needs and for land management activities, while minimizing impacts on the local ecosystem hydrologic functions and processes.				
43.	Objective: No similar objective.	Objective: Acquire or provide sufficient quantity and quality water on BLM-administered lands for multiple use and sustained yield land management activities consistent with state water law.			
44.	Action: No similar action.	Action: Develop partnerships with water rights holders to provide water for multiple uses.			
45.	Action: No similar action.	Action: Allow water importation and exportation projects that do not exceed the perennial yield of the source basin (as determined by the Nevada State Engineer) and can be implemented without compromising the multiple use and sustained yield mandate of FLPMA land health standards or those that can be mitigated.	Action: Allow water importation and exportation projects that do not exceed the perennial yield of the source basin (as determined by the Nevada State Engineer) and can be implemented without compromising the multiple use and sustained yield mandate of FLPMA land health standards as well as benefitting wildlife.	Action: Same as Alternative B.	
46.	Action: No similar action.	Action: In accordance with state water law, develop water sources or wells, as needed, on BLM-	Action: In accordance with state water law, develop water sources or wells, as needed, on BLM-administered	Action: Same as Alternative B.	Action: In accordance with state water law, develop water sources or wells, as needed, on BLM-administered

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		administered lands that can be used for multiple uses, including fire suppression activities.	lands that can be used for multiple uses, concentrating on wildlife use.		lands that can be used for multiple uses, including fire suppression activities and wildlife use.
47.	Action: No similar action.		Action: Use the state permitting process, land acquisitions, and other realty actions to acquire minimum pool and in-stream flows or to gain access to water sources or developments for other resources and uses.		
48.	Action: No similar action.	Action: Monitor water usage for geothermal developments by identifying and monitoring water sources within the watershed.	Action: Analyze water usage for geothermal developments with site-specific information regarding each water source within the watershed.	Action: No similar action.	Action: Same as Alternative B.
49.	Action: No similar action.	Action: No similar action.	Action: Prohibit surface-disturbing activities within source water protection zones.	Action: Restrict surface-disturbing activities within source water protection zones that are not compatible with maintaining water quality.	
50.	Vegetation				
51.	Overall Vegetation Goal: Manage for healthy, diverse, and productive vegetation communities while managing for multiple use and sustained yield objectives.				
52.	Vegetation – Forest and Woodlands				
53.	GOAL: Manage for healthy forests and woodland communities.				
54.	Action: Protect the 5-acre stand of western white pine located in T 11N., R 22E., Sec. 16, from damage or destruction.	Action: No similar action.			
55.	Objective: No similar objective.	Objective: Manage for sustained and diverse pinyon-juniper woodlands.			
56.	Action: No similar action.	Action: <ul style="list-style-type: none">Convert up to 20,000 acres of low density pinyon-juniper areas to sagebrush dominated communities per year	Action: <ul style="list-style-type: none">Remove up to 3,500 acres of low density pinyon-juniper areas annually to manage the expected rate of expansion into	Action: <ul style="list-style-type: none">Engage interested parties to develop a comprehensive restoration strategy prior to further	Action: <ul style="list-style-type: none">Remove up to 8,500 acres of low density pinyon-juniper areas annually to manage the expected rate of

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>for the first decade of the RMP or until approximately 200,000 acres of sagebrush habitat have been restored. After this goal is achieved, remove up to 8,500 acres of low density pinyon-juniper areas annually.</p> <ul style="list-style-type: none"> • Thin up to 6,500 acres of medium and high density pinyon-juniper woodlands per year. Allow mechanical, hand, and prescribed fire treatments. • Allow extraction and utilization of vegetative products in order to supply material for personal use, commercial businesses, and biomass facilities. 	<p>sagebrush areas.</p> <ul style="list-style-type: none"> • Thin up to 1,500 acres of medium and high density pinyon-juniper woodlands per year. • Allow extraction of wood products for personal use. 	<p>treatment of pinyon-juniper woodlands.</p> <ul style="list-style-type: none"> • Develop a utilization plan that specifies levels of personal and commercial use for the wood byproducts produced by treatments. 	<p>expansion into sagebrush areas. Thin up to 6,500 acres of medium and high density pinyon-juniper woodlands per year.</p> <ul style="list-style-type: none"> • Design all treatments in pinyon-juniper woodlands to create a diversity of stand ages, structures, and species on the landscape level, including the promotion of historic woodlands. • Allow extraction of wood products for personal use.
57.	Objective: No similar objective.	Objective: Manage for healthy and diverse pine, mixed conifer, riparian deciduous, and fir dominated forestlands to maximize sustained yield of forest products and economic development.	Objective: Manage for healthy and diverse pine, mixed conifer, riparian deciduous, and fir dominated forestlands with a focus on forest health concerns, wildlife needs, visual enhancement, and fuel hazard reduction.	Objective: Manage for healthy and diverse pine, mixed conifer, riparian deciduous, and fir dominated forestlands with a focus on scenic values, recreation, wildlife habitat enhancement, and reduction of fuels around communities.	Objective: Manage for healthy and diverse pine, mixed conifer, riparian deciduous, and fir dominated forestlands with a focus on forest health concerns, wildlife needs, recreation, visual enhancement, and fuel hazard reduction.

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
58.	Action: No similar action.	Action: No similar action.	Action: Implement the following mitigation measures where appropriate to meet forest and woodland treatment objectives: <ol style="list-style-type: none"> 1. Treatment areas will be closed to livestock grazing and will have temporary fences to exclude wildlife until the following criteria are met, and then the fences will be removed. <ol style="list-style-type: none"> a. A mean sucker height of 7 feet with a minimum of 1,000 stems per acre within the treatment area (Kay 2002). 2. Forest/woodland treatments would be closed for livestock grazing until grazing management is modified through subsequent grazing decisions to achieve proper utilization rates and/or appropriate season of use. To ensure proposed treatment success, the following stipulations may be added to the Terms and Conditions of the grazing permit. <ol style="list-style-type: none"> a. The season of use may be shifted to late season (beginning of September; Jones 2010). b. If the season of use is not shifted to late season, then utilization of terminal leader browse on branches and suckers will be less than or equal to 20 percent. If utilization rates are reached, the permittee will have five days to move livestock to the next pasture in the rotation or from the allotment entirely. c. Existing nonfunctioning water developments and fences may be required to be repaired prior to implementation of the treatment if contributing to unacceptable use patterns by livestock. 		
59.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Develop a commodity-based management plan within Alpine County. • Make riparian stands throughout the planning area available for harvest of economically valuable species. • Allow the full suite of mechanical, hand, and prescribed fire treatments. 	Action: <ul style="list-style-type: none"> • Allow only noncommercial treatments such as hand thinning, mastication, prescribed fire, planting, pruning, and stand release. With the exception of mastication, all of these treatments would be allowed in riparian stands. • Extraction and subsequent utilization may 	Action: <ul style="list-style-type: none"> • Riparian stands would be managed to protect biological diversity, water yield, native plant, and tree health, and provide wildlife habitat. • Utilization of the material from treatments (except from riparian stands) would be available to meet local demand 	Action: <ul style="list-style-type: none"> • Allow the full suite of mechanical, hand, and prescribed fire treatments, including within riparian stands, to meet the appropriate objective based on stand location. • Any utilization of material from these treatments, including riparian stands, would be a byproduct recovered from meeting

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			occur on a limited basis using winches or hand removal if the quantity of residual material is too large to meet stand health and fuel reduction objectives.	and enhance economic development. <ul style="list-style-type: none"> Within riparian stands, extraction and subsequent utilization may occur on a limited basis using winches or hand removal if the quantity of residual material is too large to meet stand health and fuel reduction objectives. 	noncommodity production goals.
60.	Objective: No similar objective.	Objective: Manage forest and woodlands to minimize mortality from insects, disease, and stand-replacing fires.			
61.	Action: No similar action.	Action: <ul style="list-style-type: none"> Allow for the salvage of fire-killed trees within a year following a fire. Treat or remove any invasive tree species or nonnative insect/pathogen (e.g., Russian olive). Coordinate with the Nevada Department of Forestry and Forest Service to develop a strategy that prevents the spread of insects and diseases. 	Action: <ul style="list-style-type: none"> Salvage or removal of trees killed from insects, disease, and fire would only be allowed to protect public safety (e.g., along roads, in campgrounds, and near facilities). Treat or remove any invasive tree species or nonnative insect/pathogen (e.g., Russian olive). Coordinate with the Nevada Department of Forestry and Forest Service to develop a strategy that prevents the 	Action: <ul style="list-style-type: none"> Coordinate with the Nevada Department of Forestry and Forest Service to develop a strategy that prevents the spread of insects and diseases. Salvage or removal of trees killed from insects, disease, and fire would only be allowed to meet local and regional wood product demand and to protect public safety. Treat or remove any 	Action: <ul style="list-style-type: none"> Coordinate with the Nevada Department of Forestry and Forest Service to develop a strategy that prevents the spread of insects and diseases. Salvage or removal of trees killed from insects, disease, and fire would only be allowed to meet local and regional woodland products, forest health, and to protect public safety. Forest and woodland health treatments would

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			spread of insects and diseases.	invasive tree species or nonnative insect/pathogen (e.g., Russian olive).	be integrated into vegetation management projects to meet multiple objectives within the planning area. <ul style="list-style-type: none"> • Treat or remove any invasive tree species or nonnative insects/pathogens (e.g., Russian olive).
62.	Vegetation – Rangelands				
63.	GOAL: Maintain and improve healthy diverse vegetative communities with species appropriate to the site potential while providing for multiple use and sustained yield.				
64.	Objective: Work towards meeting Rangeland Health Standards throughout the CCD.	Objective: No similar objective.			
65.	Action: Maintain or improve the condition of the public rangelands so as to enhance productivity for all rangeland values (including wildlife).	Action: No similar action.			
66.	Objective: Manage vegetative resources to meet ecosystem functions and providing direct and indirect economic benefits as well as high-quality recreational opportunities.	Objective: No similar objective.			
67.	Objective: No similar objective.	Objective: Use the ecological site potential and current conditions as well as the applicable state	Objective: Manage towards ecological site potential of the reference state.	Objective: Same as Alternative B.	

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		and transition models to establish Desired Future Conditions and manage towards them.			
68.	Action: No similar action.	Action: Revegetation efforts should include plant species that have high success rates and focus on long term site stability.	Action: Revegetation efforts should only include native plant species.	Action: Revegetation efforts should include species shown to provide site stability and ecological function.	Action: Include species that provide site stability, ecological function, have shown high success rates, and are appropriate to local ecological setting for revegetation efforts, favoring native species if seed is accessible and meets above criteria.
69.	Action: No similar action.	Action: Prioritize vegetative treatment in areas that have the greatest potential to produce higher yields.	Action: Prioritize vegetative treatment in areas that are in the “at-risk” community phase and have not yet passed an ecological threshold.		Action: Prioritize vegetative treatment in areas that are in the “at-risk” community phase and have not yet passed an ecological threshold, unless there is a very high-value resource at risk.
70.	Objective: No similar objective.	Objective: Maintain the health of native and desirable nonnative vegetation in the vegetative communities by providing for the physiological and phenological needs of key plant species. Ensure that vegetation within site capability is promoted to support ecological processes and diverse	Objective: Protect and enhance the health and diversity of native vegetation in the vegetative communities by providing for the physiological and phenological needs of key plant species. Ensure that vigorous, abundant, and appropriate native vegetation is present to support ecological processes and minimize fragmentation.	Objective: Restore, protect, and enhance the health and diversity of native (and some desirable nonnative) vegetation in the vegetative communities by providing for the physiological and phenological needs of key plant species. Ensure that vigorous, abundant and appropriate	Objective: Restore, protect, and enhance the health and diversity of native (and some desirable nonnative) vegetation in the vegetative communities by providing for the physiological and phenological needs of key plant species. Ensure that vigorous, abundant and appropriate vegetation is present to support

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		economic resource uses.		vegetation is present to support ecological processes and other valued resources and resource uses.	ecological processes and other valued resources.
71.	Action: No similar action.	Action: In areas of depleted understory, design treatments that increase the forage value of the vegetative resource.	Action: Identify areas of depleted understory and design treatments aimed at restoring a healthy and appropriate native understory.	Action: Same as Alternative B.	Action: Identify areas of depleted understory and design treatments that restore a healthy understory that is appropriate for the ecological site.
72.	Action: No similar action.	Action: Allow removal of sagebrush when there is a resource or resource use of higher priority, such as mineral extraction, energy development, or forage production.	Action: Maintain large, intact sagebrush communities by reducing fragmentation by limiting ground-disturbing activities.	Action: Manage current and create future stands of large, intact sagebrush communities while reducing fragmentation by ground-disturbing activities within the urban interface areas.	Action: Promote the maintenance of current and creation of future stands of large, intact sagebrush communities while allowing for some sagebrush removal on a case-by-case basis.
73.	Action: Maintain a sufficient quality and diversity of habitat and forage for livestock, wildlife, and wild horses through natural regeneration or vegetation manipulation methods.	Action: No similar action.			
74.	Action: No similar action.	Action: Allow a minimum of 2 growing seasons rest from uses post vegetative treatment (see <i>Special Status Species, Greater Sage-Grouse</i>).	Action: Define treatment objectives with appropriate monitoring and do not resume uses until treatment objectives have been met (see <i>Special Status Species, Greater Sage-Grouse</i>).	Action: Same as Alternative B.	Action: Define treatment objectives and allow a minimum of 2 growing seasons rest from uses post vegetative treatment. If objectives are not met, consider deeming the treatment a failure and

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
					resuming uses at a modified (appropriate for the new site conditions) level (see <i>Special Status Species, Greater Sage-Grouse</i>).
75.	Vegetation - Restoration and Rehabilitation				
76.	Goal: Maintain or reintroduce vegetative components to an ecosystem that allow infiltration and that have root mass capable of stabilizing the soil (Rehabilitation) and allow for transition to a site-appropriate diverse vegetative community based on state and transition modeling (Restoration).				
77.	Objective: No similar objective.	Objective: Rehabilitation projects will be conducted to stabilize soils, re-establish hydrologic function, maintain and enhance biological integrity, promote plant resiliency, limit expansion or dominance of invasive species, and reestablish native species.			
78.	Action: No similar action.	Action: Accommodate a cooperative agency component for planning and post event rehabilitation including non-profits and land trusts to address multi-jurisdictional areas.			
79.	Action: No similar action.	Action: Prevent cheatgrass and other invasive species from dominating burned areas and altering the natural fire regime.	Action: Design and implement emergency stabilization and burned area rehabilitation treatments for high value wildlife habitat by re-establishing appropriate species, subspecies, and understory plants relative to site potential.	Action: Design and implement emergency stabilization and burned area rehabilitation treatments to protect wildland urban interface areas from subsequent wildfires by using fire resistant species.	Action: Design and implement emergency stabilization and burned area rehabilitation treatments to protect wildland urban interface areas, improve high value wildlife habitat by re-establishing appropriate species, subspecies, and understory plants relative to site potential and prevent invasive species dominance.
80.	Action: No similar action.	Action: Select plant material based on availability, adaptation (site potential), and probability of success for restoration work.	Action: Use native plant material for restoration work.	Action: Based on availability, adaptation (site potential), and probability of success, use native plant material for restoration work. Where probability of success or native seed availability is low or where cost prohibitive, nonnative seed may be used. Native seed may be used in conjunction with nonnative seed on the same treatment area.	
81.	Action: No similar action.		Action: Use native plant material and restoration techniques to establish desired plant communities focusing on native communities and intact ecosystems. Allow for the use of nonnative species when one or more of the following criteria are met:		

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Suitable native species are not available. • The natural biological diversity of the proposed management area would not be diminished. • The use of nonnative species is needed due to site-specific conditions/needs such as the presence of invasive species, hostile soil conditions (e.g., priority habitat or salinity), and the use of green stripping is needed in response to wildfire. • Nonnative species can be confined within the proposed management area. • Analysis of ecological site inventory information indicates that a site would not support reestablishment of a species that historically was part of the natural environment. • Resource management objectives cannot be met with native species. See BLM's Integrated Vegetation Management Handbook, Chapter 8, H-1740-2 (BLM 2008c). 		
82.	Action: No similar action.		<p>Action: Prior to implementation of a treatment that has an objective to release the understory or reseed native species, the BLM will monitor treatment areas to determine and document resource conditions and current livestock grazing management (i.e., season of use and utilization levels).</p> <ol style="list-style-type: none"> 1. If it is determined that livestock grazing management is resulting in utilization levels that are moderate to severe, then BLM will document resource conditions and current utilization levels in a monitoring report which will be used to determine if changes in the current terms and conditions of the grazing permit will be required to maintain the long term success of the proposed treatment. Changes to the permitted use will be completed through the issuance of subsequent grazing decisions in accordance with 43 CFR §§ 4110.3, 4130.3-3 and 4160. 2. Sagebrush treatments would not be conducted until grazing management is modified through subsequent grazing decisions to achieve proper utilization rates. To ensure treatment success, specific stipulations may be added to the Terms and Conditions of the grazing permit. Some of the potential stipulations are listed below. <ol style="list-style-type: none"> a. Timing and Duration of Grazing, the season of use may be shifted or the duration of grazing may be shortened to give the vegetation time to recover from grazing. b. In mountain big sagebrush communities, utilization rates will not exceed 45 percent for upland herbaceous species and 35 percent for upland shrub species. If utilization rates are reached, the permittee will have five days to move livestock to the next pasture in the rotation or from the allotment entirely as outlined in Range Management, Principles & Practices (Holechek et al. 1998). 		

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>c. In Wyoming and basin big sagebrush communities, utilization rates will not exceed 35 percent for upland herbaceous species and 35 percent for upland shrub species. If utilization rates are reached, the permittee will have five days to move livestock to the next pasture in the rotation or from the allotment entirely as outlined in Range Management, Principles & Practices (Holechek et al. 1998).</p> <p>d. In black sagebrush communities, utilization rates will not exceed 45 percent for upland herbaceous species and 35 percent for upland shrub species. If utilization rates are reached, the permittee will have 5 days to move livestock to the next pasture in the rotation or from the allotment entirely as outlined in Range Management, Principles & Practices (Holechek et al. 1998).</p> <p>e. Existing nonfunctioning water developments and fences may be required to be repaired prior to implementation of the treatment if contributing to unacceptable use patterns by livestock.</p>		
83.	Action: No similar action.	Action: Design effectiveness monitoring for restoration projects to be consistent with the BLM’s National Assessment, Inventory, and Monitoring Protocol, or other integrated management monitoring strategy that can be used to evaluate treatment outcomes.			
84.	Vegetation - Riparian Wetlands				
85.	Goal: Achieve and manage proper functioning condition of riparian areas.				
86.	Action common to all: In order to insure watershed health, control or eliminate noxious weeds on both upland and riparian areas in cooperation with federal, state, and local agencies, as well private groups or other interested parties.				
87.	Objective: No similar objective.	Objective: Ensure stream channel morphology and functions that are appropriate for local soil type, climate, and landform. Improve riparian and wetland lotic areas (Proper Functioning Condition [PFC] and functioning at risk with an upward trend) to 75 percent, progressing towards or attaining PFC. Improve riparian and wetland lentic areas so that	Objective: Ensure stream channel morphology and functions that are appropriate for local soil type, climate, and landform. Improve riparian and wetland lotic and lentic areas (PFC and functioning at risk with an upward trend) to 85 percent to attain PFC over the next 20 years. Continue improving riparian and wetland lotic and lentic areas so that 100 percent are attaining PFC within the next 30 years.	Objective: Ensure stream channel morphology and functions that are appropriate for local soil type, climate, and landform. Improve riparian and wetland lotic and lentic areas (PFC and functioning at risk with an upward trend) to 85 percent, progressing towards or attaining PFC over the next 20 years. Continue improving riparian and wetland lotic and lentic areas so that 100 percent are progressing towards or attaining PFC within the next 30 years.	

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		75 percent are progressing towards or attaining PFC. The improvements would occur over the life of the plan.			
88.	Action: No similar action.	Action: Avoid or minimize the disturbance, loss, or degradation of riparian, wetland, and associated floodplains. When avoidance is not feasible, use off-site mitigation through coordination, consultation, and cooperation with affected and interested public.	Action: Avoid the disturbance, loss, or degradation of riparian, wetland, and associated floodplains. Preserve, enhance and provide natural and beneficial values for fish, wildlife, and special status species habitats.	Action: Same as Alternative B.	
89.	Action: Improve and maintain the condition of the riparian habitat.	Action: Implement rehabilitation activities in riparian systems that are Functional-at Risk. Rehabilitation would focus on diversifying riparian communities, protecting natural flow requirements, protecting water quality, and managing for year-round flow.	Action: Implement rehabilitation activities in riparian systems with prioritization of areas as follows: <ul style="list-style-type: none"> • Functional-at Risk. • Rating with a downward trend. • Nonfunctioning. • Fish and wildlife priority habitat (including areas rated as meeting PFC). Rehabilitation would focus on diversifying or establishing riparian communities, protecting or engineering natural flow requirements,	Action: Same as Alternative B.	

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			protecting water quality, and managing for year-round flow.		
90.	Action: No similar action.	Action: Based on the cause of nonattainment of PFC, implement the appropriate actions from the list below in riparian/wetland areas identified to be nonfunctioning systems or systems that are Functional-at Risk: <ul style="list-style-type: none"> • Fence riparian or wetland areas to exclude wild horses and burros, livestock, and provide an off-site water source when conditions permit. • Revise grazing management during the grazing permit renewal process. • Implement other protective measures as necessary based on site-specific conditions. 	Action: Based on the cause of nonattainment of PFC, implement the appropriate actions from the list below in riparian/wetland areas identified to be nonfunctioning systems or systems that are Functional-at Risk: <ul style="list-style-type: none"> • Fence riparian or wetland areas (including surrounding uplands) to exclude wild horses and burros, livestock, and provide an off-site water source when conditions permit. • Revise grazing management before next turn out date, or as soon as observation is made. • Implement other protective measures as necessary based on site-specific conditions. 	Action: Based on the cause of nonattainment of PFC, implement the appropriate actions from the list below in riparian/wetland areas identified to be nonfunctioning systems or systems that are Functional-at Risk: <ul style="list-style-type: none"> • Fence riparian or wetland areas to exclude wild horses and burros, livestock, and provide an off-site water source when conditions permit. • Implement other protective measures as necessary based on site-specific conditions. 	Action: Same as Alternative B plus: <ul style="list-style-type: none"> • Monitor OHV use near riparian areas and develop an awareness outreach program.
91.	Action: Reduce soil erosion and enhance watershed values by increasing ground cover and litter.	Action: Manage towards a minimum of 2 appropriate stabilizing riparian species to increase in ground cover.	Action: Manage towards more than 2 appropriate diverse stabilizing species to increase in ground cover.	Action: Same as Alternative B.	Action: Same as Alternative B, but with the recognition that more diversity is ideal and preferred.
92.	Objective: No similar objective.	Objective: Maintain or restore riparian areas for	Objective: Maintain or restore riparian areas for	Objective: Maintain or restore riparian areas	Objective: Same as Alternative C.

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		resource use.	resource use and resource values.	for resource use and resource values with a focus in the urban interface area.	
93.	Action: No similar action.		Action: Meadows and riparian areas would be considered key areas in the development of wildlife, livestock, or recreation implementation plans.		
94.	Action: No similar action.		<p>Action: Prior to implementation of a treatment to benefit riparian areas, the BLM will review the current livestock grazing management and current resource conditions (i.e., season of use, proper functioning condition rating) and determine if changes in the current terms and conditions of the grazing permit will be required to maintain the long term success of the proposed treatment. Changes to the permitted use will be completed through the issuance of subsequent grazing decisions in accordance with 43 CFR 4110.3, 4130.3-3 and 4160. To ensure treatment success, specific stipulations may be added to the Terms and Conditions of the grazing permit. Some of the potential stipulations are listed below.</p> <ul style="list-style-type: none"> • Timing and Duration of Grazing, the season of use may shifted to avoid hot season grazing (July – September) or the duration of grazing may be shortened to give the riparian vegetation time to recover. • Average stubble height of at least 4 to 6 inches will be maintained for herbaceous riparian vegetation with consideration for habitat. If stubble height limits are reached, the permittee will have five days to move livestock to the next pasture in the rotation or from the allotment entirely. • Stream bank alteration rates will be set to a level appropriate to the particular stream in accordance with Guidelines for Establishing Allowable Levels of Streambank Alteration (2002). If designated stream bank alteration rates are reached, the permittee will have five days to move livestock to the next pasture in the rotation or from the allotment entirely. • Utilization rates will not exceed 35 percent for woody species. If utilization rates are reached, the permittee will have five days to move livestock to the next pasture in the rotation or from the allotment entirely. • Existing nonfunctioning water developments and fences may be required to be repaired prior to implementation of the treatment if contributing to unacceptable use patterns by livestock. 		
95.	Action: No similar action.	Action: Where feasible and consistent with user	Action: Where feasible and consistent with user safety,	Action: Where feasible and consistent with user safety, developed travel routes would be located/relocated	

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		safety, any new travel routes would be located away from sensitive riparian/wetland areas.	new and existing travel routes would be located/relocated away from sensitive riparian/wetland areas plus a 500-foot or more buffer as appropriate.	away from sensitive riparian/wetland areas, giving priority to high-use urban interface areas.	
96.	Action: No similar action.	Action: Avoid issuing Special Recreation Permits (SRPs) for recreation uses within 200 feet of a riparian area to reduce vegetation disturbance and sedimentation.	Action: Prohibit camping within 200 feet of a riparian area.	Action: Same as Alternative B.	
97.	Action: No similar action.	Action: Establish Winters Ranch, Mustang, 102 Ranch, and other acquired lands within regionally major surface water systems as a Riparian/Wetland Demonstration Area for the improvement and restoration of riparian, wetland, and wildlife resources.	Action: Establish, plan, and promote Winters Ranch, Mustang, 102 Ranch, and other acquired lands within regionally major surface water systems as a Riparian/Wetland Demonstration Area for the improvement and restoration of riparian, wetland and wildlife resources.	Action: Establish, plan, promote and pursue long-term cooperators for Winters Ranch, Mustang, 102 Ranch, and other acquired lands within regionally major surface water systems as Riparian/Wetland Demonstration Areas for the improvement and restoration of riparian, wetland, and wildlife resources and for educational opportunities.	
98.	Action: No similar action.	Action: Allow woodcutting or removal of vegetative materials in riparian areas as consistent with achievement of riparian, forest health, cultural, Native American values, wildlife, and fuels objectives.	Action: Close riparian areas to woodcutting or any other vegetative removal, except where important for traditional cultural practices identified for Native Americans or for restoration to benefit riparian values.		Action: Same as Alternative B.

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
99.	Action: No similar action.	Action: Limit new stream crossings as determined by topography, geology, and soil type. Design any necessary stream crossings to minimize sedimentation, soil erosion, and compaction.	Action: Same as Alternative B and redesign existing crossings to minimize sedimentation, soil erosion, and compaction.	Action: Same as Alternative B and redesign existing crossings in high-use recreation and OHV areas within the urban interface.	
100.	Action: No similar action.	Action: Any water developments associated with riparian areas would be designed and constructed to protect ecological processes and functions of the riparian areas. Developments would not be allowed where water is insufficient to maintain riparian vegetation and functionality.	Action: Prohibit new water developments in riparian areas.	Action: Same as Alternative B.	
101.	Action: No similar action.	Action: After a fire event, redesign and rebuild unmaintained water developments to ensure riparian functionality and water availability.	Action: Remove unmaintained water developments after a fire event.	Action: Same as Alternative B.	
102.	Action: No similar action.	Action: <ul style="list-style-type: none"> Improve riparian and wetland management through coordination with interested publics and through cooperative monitoring. 	Action: <ul style="list-style-type: none"> Preclude surface-disturbing activities within 100-year floodplains, 200 feet of riparian and wetland areas, public water reserves, and 500 feet of springs (except for 	Action: <ul style="list-style-type: none"> Preclude surface-disturbing activities within 200 feet of riparian and wetland areas and 500 feet of springs (except for fencing) when needed 	Action: Same as Alternative D except: <ul style="list-style-type: none"> Apply a NSO stipulation for fluid mineral leasing within 500 feet of riparian and wetland areas, 100-year floodplains, and on or

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>fencing) when needed to maintain or restore riparian areas. Adjustments may be made to these buffers based upon the resource values associated with riparian/wetland areas and the surface-disturbing activities scope.</p> <ul style="list-style-type: none"> • Improve riparian/wetland management through coordination with interested publics and through cooperative monitoring. • Close riparian/wetland areas, including a 200-foot buffer, to mineral material disposal. Adjustments may be made to these buffers based upon the resource values associated with riparian/wetland areas and the surface-disturbing activities scope. • Implement BMPs to protect riparian and lowland communities from storage pool inundation. • Apply a NSO stipulation for fluid mineral leasing within 500 feet of riparian and wetlands areas, 100 year floodplains and on or 	<p>to maintain or restore riparian areas. Adjustments may be made to these buffers based upon the resource values associated with riparian/wetland areas and the surface-disturbing activities scope.</p> <ul style="list-style-type: none"> • Implement BMPs to protect riparian and lowland communities from storage pool inundation. • Improve riparian/wetland management through coordination with interested publics and through cooperative monitoring. • Apply a CSU stipulation for fluid mineral leasing within 200 feet of riparian and wetland areas, 100-year floodplains and on or within 500 feet of playas. Adjustments may be made to these buffers based upon the 	<p>within 500 feet of playas. Adjustments may be made to these buffers based upon the resource values associated with riparian/wetland areas and the surface-disturbing activities scope.</p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>within 500 feet of playas. Adjustments may be made to these buffers based upon the resource values associated with riparian/wetland areas and the surface-disturbing activities scope.</p> <ul style="list-style-type: none"> • Manage the 200-foot buffer for riparian and wetland areas as ROW exclusion. Adjustments may be made to these buffers based upon the resource values associated with riparian/wetland areas and the surface-disturbing activities scope. 	<p>resource values associated with riparian/wetland areas and the surface-disturbing activities scope.</p> <ul style="list-style-type: none"> • Manage as a ROW avoidance area. 	
103.	Action: No similar action.	Action: To the extent possible, pipeline crossings of perennial, intermittent, and ephemeral stream channels should be constructed to withstand 100-year floods.	Action: Pipeline crossings of perennial, intermittent, and ephemeral stream channels would be constructed to withstand 100-year floods to prevent breakage and subsequent accidental contamination of runoff during high-flow events.	Action: Same as Alternative B plus: establish ecological goals, to reduce habitat fragmentation within ROW applications and grants. Habitat management goals would be tied to maintenance of the ROW throughout the life of the ROW grant.	
104.	Action: No similar action.	Action: Acquire riparian lands and water resources to preserve and maintain riparian habitat and instream flow.	Action: Acquire riparian lands and water resources to preserve and maintain riparian habitat and instream flow and obtained water rights and preclude any activities that contribute to dewatering.	Action: Acquire riparian lands and water resources to preserve and maintain riparian habitat and instream flow in coordination with communities.	Action: Acquire riparian lands and water resources to preserve and maintain riparian habitat and instream flow and obtain water rights.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
105.	Action: Protect and maintain existing and potential fisheries habitat and riparian habitats in a good or better condition.	Action: No similar action.			
106.	Vegetation – Invasive, Nonnative Species, and Noxious Weeds				
107.	GOAL: Prevent and minimize the introduction and spread of invasive and noxious plants with an emphasis on collaboration with federal, tribal, state, county governments, permitted land users and conservation groups.				
108.	Objective: No similar objective.	Objective: Use ecologically based invasive plant management practices for vegetation management efforts across resource programs for the States of Nevada and California-listed noxious weed and invasive annual species.			
109.	Action: No similar action.	Action: Implement the ecologically based invasive plant management approach for weed abatement projects, regardless of size including: public education, prevention, eradication, control, revegetation and evaluation.			
110.	Action: The Navy and BLM will coordinate with appropriate agencies and implement approved integrated pest management plans to control and remove undesirable vegetation.	Action: Coordinate with federal, state, and local governments and weed districts on weed management efforts.			
111.	Action: No similar action.	Action: Utilize appropriate control methods, including mechanical, biological and chemical to eradicate or control invasive, nonnative species and noxious weeds. Control methods include mechanical (digging or mowing), biological (livestock grazing, bio-pathogens or predator species) and chemical (BLM approved herbicides and additives) treatments	Action: Utilize appropriate control methods including mechanical and biological to eradicate or control invasive nonnative species and noxious weeds. Control methods may require multiple applications to achieve goals (see <i>Special Status Species, Greater Sage-Grouse</i>).	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		that may be used alone or in combination. Control methods may require multiple applications to achieve goals (see <i>Special Status Species, Greater Sage-Grouse</i>).			
112.	Action: No similar action.	Action: Implement weed management stipulations and public education to reduce spread of invasive, nonnative species and noxious weeds along perennial stream corridors.	Action: Implement weed management stipulations and public education to reduce spread of invasive, nonnative species and noxious weeds along perennial, intermittent, and ephemeral stream corridors.	Action: Implement weed management stipulations and public education to reduce spread of invasive, nonnative species and noxious weeds along perennial stream corridors in the urban interface.	
113.	Objective: Prioritize weed management areas based on location and degree of infestation district-wide.				
114.	Action: Assign priority ranking of weed projects based on degree of infestation, location, resource availability, and resources at risk. Some weed-infested areas may be too widespread to meaningfully manage, and therefore abatement actions are postponed in the area until new technology and resources become available to deal with the situation.	Action: Assign priority ranking of weed projects based on degree of infestation, location, resource availability, and resources at risk with a focus on areas with existing and new surface disturbance.	Action: Assign priority ranking of weed projects based on degree of infestation, location, resource availability, and resources at risk with a focus on priority fish and wildlife habitats.	Action: Assign priority ranking of weed projects based on degree of infestation, location, resource availability, and resources at risk with a focus on the urban interface and recreation areas.	Action: Assign priority ranking of weed projects based on degree of infestation, location, and resource availability.
115.	Objective: No similar objective.	Objective: Require the control of materials contaminated with noxious weed seeds or plant parts.			
116.	Action: No similar action.	Action: Require forage brought on to BLM-administered land to have Weed –Seed Free certification. Existing operations would be encouraged to obtain a Weed Free certification.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
117.	Action: No similar action.	Action: Require salable mineral materials obtained from BLM-administered land to have Weed Free certification. Existing operations would be encouraged to obtain a Weed Free certification.			
118.	Action: No similar action.	Action: Require all construction on BLM-administered land to utilize earth materials, as appropriate based on the geographic area of use, that are State of Nevada and/or State of California certified as Weed Free.			
119.	Action: No similar action.	Action: All new, renewal, and amendment requests for land use authorizations would require a stipulation in the authorization addressing noxious weed management.			
120.	Action: No similar action.	Action: New, renewal, and amendment requests for major category ROWs would require a BLM-approved noxious weed management plan, annually perform surveys, and conduct ecologically based invasive plant management weed abatement measures when infestations are determined to be present either within or adjacent to the project area.	Action: All land use authorization holders would develop a BLM-approved noxious weed management plan, annually perform surveys, and conduct ecologically based invasive plant management weed abatement measures. Reestablish native vegetation in disturbed areas after authorized construction activities have taken place where analysis as indicated it is appropriate.	Action: Same as Alternative B, except any category of new, renewal, or amendment request for a land use authorization in the urban interface would require the plan and annual surveys when infestations are determined to be present.	Action: Same as Alternative B, except whenever a compliance inspection on any category of land use authorization determines an infestation is present the land use authorization would require a plan. Annual surveys would be required until the holder can demonstrate that the infestation is eradicated from the project area.
121.	Fish and Wildlife				
122.	GOAL: Manage vegetation communities that provide the food, cover, and breeding requisites for existing and potential native or otherwise desirable species of fish and wildlife in order to sustain and optimize their distribution and abundance consistent with habitat capability.				
123.	Action commons to all alternatives: <ul style="list-style-type: none"> • Modify existing BLM fences during maintenance and build new fences to facilitate wildlife passage, unless the fences are intended to exclude wildlife. When necessary, mark fences to increase fence visibility and reduce wildlife collision risk. • Permanently cap all pipes used in fencing or claim markers to prevent wildlife from being trapped within the pipe. • Construct water troughs to allow access by wildlife. Water for wildlife will be made available at all livestock watering developments where appropriate. • Install wildlife escape ramps in all new and existing water troughs. • Authorize wildlife water developments in coordination with the Nevada Department of Wildlife (NDOW) as mitigation for disturbance, changes in habitat quantity or quality, or to supply a reliable, protected source of water for wildlife species. • Coordinate with NDOW prior to authorization of new wildlife water developments (e.g., near SRP event courses). 				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Coordinate with other wildlife agencies (e.g., USFWS and NDOW) on mitigation measures for wildlife and wildlife habitat protection. Design water developments to be constructed specifically for wildlife to exclude use from domestic livestock and wild horses and burros. Design all spring boxes or other water development structures so as to not trap wildlife and conduct appropriate surveys prior to construction. Implement timing restrictions and distance buffers, as appropriate, to minimize impacts on wildlife from activities during important life-cycle periods (e.g., breeding, nesting, fawning, and major migrations). Support research efforts to ensure availability of data necessary for proper and efficient management of wildlife, fish, and special status species. To the extent practical, support NDOW in achieving the goals and objectives outlined in the Nevada Wildlife Action Plan (or equivalent plan). Recognize the wildlife values associated with Wildlife Management Areas, and to the extent practicable, provide consistent management across jurisdictional boundaries (e.g., Alkali Lake, Mason Valley, Scripps, Fernley, and Carson Lake and Pasture). Support partnership opportunities for state and non-profit groups to assist with monitoring, identification, and protection of fish, wildlife, and plants. 				
124.	Wildlife Habitat (for Greater Sage-Grouse habitat see <i>Special Status Species, Greater Sage-Grouse</i>)				
125.	Objective: No similar objective.	Objective: Maintain key habitat integrity, continuity, connectivity, productivity to support self-sustaining fish and wildlife populations on a landscape scale with an emphasis on priority species and habitats.	Objective: Maintain or improve key habitat integrity, continuity, connectivity, productivity, and minimize new disturbance to support self-sustaining fish and wildlife populations on a landscape scale with an emphasis on priority species and habitats.	Objective: Maintain key habitat integrity, continuity, connectivity, productivity, and minimize new disturbance to support self-sustaining fish and wildlife populations within the urban interface in coordination with landscape level habitat improvement.	Objective: Same as Alternative C.
126.	Action: No similar action.	Action: Implement habitat improvement projects where necessary to stabilize or improve unsatisfactory or declining wildlife habitat condition.			
127.	Action: No similar action.	Action: Remove nonnative, undesirable aquatic animal species (such as bullfrogs, New Zealand mudsnails, quagga/zebra mussels) from active native aquatic breeding grounds in fish	Action: Remove nonnative, undesirable aquatic animal species (such as bullfrogs, New Zealand mudsnails, and quagga/zebra mussels) from active native aquatic breeding grounds in fish and wildlife priority habitat.		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		and wildlife priority habitats when necessary.			
128.	Action: No similar action.	Action: Within fish and wildlife priority habitat, offset habitat loss from discretionary actions with mitigation to ensure no net unmitigated loss.			
129.	Action: No similar action.	Action: Authorize locatable mineral development activity per the 43 CFR 3809 regulations through Plan of Operation Approvals and apply mitigation and BMPs that minimizes the loss of fish and wildlife priority habitat.			
130.	Action: No similar action.	Action: Apply a CSU stipulation for fluid mineral leasing within 500 feet of lentic and lotic habitats occupied by federally listed aquatic and semi-aquatic species.	Action: Apply a NSO stipulation for fluid mineral leasing within 500 feet of lentic and lotic habitats occupied by federally listed and BLM sensitive aquatic and semi-aquatic species with no exceptions, modification or waivers.	Action: Same as Alternative B.	Action: Apply a NSO stipulation for fluid mineral leasing within 500 feet of lentic and lotic habitats occupied by federally listed and BLM sensitive aquatic and semi-aquatic species with exceptions, modification, and waivers.
131.	Action: No similar action.	Action: Manage fish and wildlife priority habitat (Figure 2-5): <ul style="list-style-type: none"> • Manage as a ROW avoidance area, including a 100-foot buffer for aquatic habitats. 	Action: Manage fish and wildlife priority habitat (Figure 2-5): <ul style="list-style-type: none"> • Manage as a ROW exclusion area, including a 500-foot buffer for aquatic habitats. • Close to mineral material disposal, and nonenergy mineral leasing. 	Action: Same as Alternative B.	
132.	Action: No similar action.		Action: Support the reintroduction or augmentation of native wildlife to areas where these actions would not result in a decline of habitat quality and quantity for existing native wildlife species.	Action: No similar action.	Action: Support the introduction, reintroduction, or augmentation of native and nonnative wildlife to areas where these actions would not result in a decline of habitat quality and quantity for existing native wildlife species.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
133.	Big Game Species (Includes Special Status Species)				
134.	Objective: Manage wildlife habitat for a long-term goal of providing forage for reasonable numbers of big game.	Objective: Provide sufficient forage, cover, and protection from disturbance for large ungulates (deer, elk, bighorn sheep, and pronghorn) to maintain healthy viable populations across the landscape consistent with the NDOW's big game herd unit objectives.			
135.	Action: No similar action.	Action: Mitigate disturbance from land use authorization activities in the following areas (dependent on seasonal and site-specific conditions): <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 to June 15 • Mule deer fawning areas: June 1 to June 30 • Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 • Bighorn sheep lambing areas: February 1 to May 15 • Elk calving areas (should elk expand their range further): May to June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: January 1 to April 15 	Action: Prohibit disturbance from land use authorizations and implement timing limitation stipulations for fluid mineral leasing in the following areas (dependent on seasonal and site-specific conditions): <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 to June 15 • Mule deer fawning areas: June 1 to June 30 • Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 • Bighorn sheep lambing areas: February 1 to May 15 • Elk calving areas (should elk expand their range further): May 15 to June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: November 1 to May 1 	Action: Within the urban interface zone, prohibit disturbance from land use authorizations and implement timing limitation stipulations for fluid mineral leasing in the following areas (dependent on seasonal and site-specific conditions). Outside of the urban interface zone, mitigate disturbance from land use authorization activities in the following areas (dependent on seasonal and site-specific conditions): <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 to June 15 • Mule deer fawning areas: June 1 to June 30 • Mule deer migration and movement corridors: March 1 to 	Action: Prohibit disturbance from land use authorizations and implement timing limitation stipulations for fluid mineral leasing in the following areas (dependent on seasonal and site-specific conditions) unless appropriate mitigation is deemed sufficient by the BLM Authorized Officer: <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 to June 15 • Mule deer fawning areas: June 1 to June 30 • Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 • Bighorn sheep lambing areas: February 1 to May 15 • Elk calving areas: (May 15 to June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: December 1 to

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Big game migration/ movement corridors • Crucial habitat areas 	May 15 and October 1 to November 30 <ul style="list-style-type: none"> • Bighorn sheep lambing areas: February 1 to May 15 • Elk calving areas (should elk expand their range further): May 15 to June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: November 1 to May 1 	May 1 <ul style="list-style-type: none"> • Big game migration/ movement corridors • Crucial habitat areas
136.	Action: No similar action.	Action: Evaluate impacts of fences or other structures that may inhibit big game movement on a case by case basis.	Action: Do not construct fences and other structures that could obstruct big game migration corridors or connectivity between seasonal ranges and movement within big game migration corridors unless the fence is to prevent vehicle collisions.	Action: Construct fences and other structures that would help prevent vehicle collisions within the urban interface zone where deemed necessary.	Action: Construct fences and other structures that would not obstruct big game migration corridors or connectivity between seasonal ranges and movement within big game migration corridors.
137.	Action: No similar action.	Action: Prohibit translocations of bighorn sheep into areas with no reasonable likelihood of effective separation from domestic sheep or goats unless the NDOW agrees that effective separation is not possible and the sheep or goat permittee is held harmless if disease transmission should occur.			
138.	Action: No similar action.		Action: Restrict domestic sheep and goat grazing to areas greater than 9 miles (or other distance that provides effective separation as updated based on BLM-approved scientific	Action: No similar action.	Action: Restrict domestic sheep and goat grazing to areas greater than 9 miles (or other distance that provides effective separation as updated based on BLM-approved scientific

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			recommendations) from potential and occupied bighorn sheep habitat.		recommendations) from occupied bighorn sheep habitat.
139.	Migratory Birds (Includes Waterfowl, Shorebirds, and Special Status Species)				
140.	Objective: No similar objective.	Objective: Protect, restore, or conserve populations and habitats of migratory birds pursuant to current laws and guidance.			
141.	Action: No similar action.	Action: Avoid disturbance to nesting migratory birds, with an emphasis on special status species and birds of conservation concern (generally May 15 to July 15, but time periods may vary by species and seasonal conditions). If active nests are observed, adhere to USFWS and BLM recommendations and mandates in determining appropriate buffer distances for species protected under the MBTA.	Action: Same as Alternative B.	Action: Same as Alternative B.	Action: Same as Alternative B.
142.	Action: No similar action.	Action: Minimize collisions with fences, towers, and other structures through marking to increase visibility through the use of <i>Reducing Avian Collisions with Power Lines, the State of the Art</i> (APLIC 2012) or best available science.			
143.	Action: No similar action.	Action: Protect migratory pathways of waterfowl and shorebirds. For Important Bird Areas (Figure 2-5): <ul style="list-style-type: none"> • Manage as a ROW avoidance area. • Apply a CSU stipulation for fluid mineral leasing. 	Action: Protect migratory pathways of waterfowl and shorebirds. For Important Bird Areas (Figure 2-5): <ul style="list-style-type: none"> • Manage as a ROW exclusion area. • Apply a NSO stipulation for fluid mineral leasing. • Close to mineral material disposal. 	Action: Same as Alternative B, except in the urban interface zone seek acquisitions of land to protect migratory pathways of waterfowl and shorebirds.	Action: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
144.	Objective: Manage and/or enhance functioning habitats capable of sustaining a diverse variety of wildlife species and maintaining populations of priority species within Swan Lake.				
145.	Action: Manage the Swan Lake Nature Study Area as follows: <ul style="list-style-type: none">Withdrawn from locatable mineral entry.Motorized vehicle use restricted to “Designated” roads.Nonfederal lands within the Swan Lake Nature Area will be considered for acquisition.	Action: Manage Swan Lake as follows: <ul style="list-style-type: none">Continue to be withdrawn from locatable mineral entry (see <i>Geology and Minerals, Locatable Minerals</i> [as part of the Washoe County withdrawal]).Close to fluid mineral leasing (see <i>Geology and Minerals, Fluid Mineral - Oil, Gas and Geothermal</i> [as part of Washoe County]).Close to nonenergy mineral leasing (see <i>Geology and Minerals, Nonenergy Leasable Minerals</i> [as part of Washoe County]).Limited to existing roads, primitive roads, and trails for motorized travel (see <i>Comprehensive Travel and Transportation Management</i>).Nonfederal lands within the Swan Lake area will be considered for acquisition (see <i>Lands and Realty, Land Tenure Adjustments – Acquisitions</i>).Collaboratively plan and manage Swan Lake with Swan Lake Nature Study Area Advisory Board.Work with the Swan Lake Nature Study Area Advisory Board to increase educational outreach activities/opportunities while minimizing impacts on vegetation and wildlife communities.			
146.	Bats (Includes Special Status Species)				
147.	Objective: No similar objective.	Objective: Maintain, protect, and improve bat (sensitive and nonsensitive) habitat.			
148.	Action: No similar action.	Action: <ul style="list-style-type: none">Inventory for bats and habitat usage before surface occupancy or disturbance proposed within 0.25 mile of caves not known to be occupied.Close access to caves in the event of a white-nose syndrome outbreak or other transmittable disease.	Action: <ul style="list-style-type: none">Inventory for bats and habitat usage before surface disturbance proposed within 0.5 mile of caves not known to be occupied.Prohibit large-scale surface-disturbing discretionary actions within 500 feet of bat occupied caves.Prohibit access to caves with bat resources to prevent the spread of	Action: <ul style="list-style-type: none">Inventory for bats and habitat usage before surface occupancy or disturbance proposed within 0.25 mile of caves not known to be occupied.Prohibit large-scale surface-disturbing discretionary actions within 200 feet of bat occupied caves.Prohibit access to	Action: <ul style="list-style-type: none">Inventory for bats and habitat usage before surface occupancy or disturbance proposed within 0.25 mile of caves not known to be occupied.Prohibit large-scale surface-disturbing discretionary actions within 0.5 miles of bat occupied caves.Prohibit access to caves with bat resources to

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>white-nose syndrome.</p> <ul style="list-style-type: none"> • Close access to caves in the event of a white-nose syndrome outbreak or other transmittable disease. • Protect bat habitat by implementing mitigation measures such as seasonal restrictions, off-site mitigation, and rehabilitation on a case-by-case basis to reduce adverse impacts. • Install bat gates at the entrance of all caves to protect important bat habitats, minimize potential impacts on roosting bats, and protect human health and safety. 	<p>caves with bat resources to prevent the spread of white-nose syndrome.</p> <ul style="list-style-type: none"> • Close access to caves in the event of a white-nose syndrome outbreak or other transmittable disease. • Protect bat habitat by implementing such as mitigation measures seasonal restrictions, off-site mitigation, and rehabilitation on a case-by-case basis to reduce adverse impacts. 	<p>prevent the spread of white-nose syndrome.</p> <ul style="list-style-type: none"> • Close access to caves in the event of a white-nose syndrome outbreak or other transmittable disease. • Protect bat habitat by implementing mitigation measures such as seasonal restrictions, off-site mitigation and rehabilitation on a case-by-case basis to reduce adverse impacts. • Evaluate the potential of installing bat gates at the entrance of caves on a case by case basis to protect important bat habitats, minimize potential impacts on roosting bats, and protect human health and safety.
149.	Action: No similar action.	Action: Where cavernicolous bat roosting, maternity sites, and winter hibernacula occur, bat gates would be required for closing abandoned mine land underground entryways.			
150.	Action: No similar action.	Action: Restrict BLM-authorized activities that could adversely affect federally listed or BLM sensitive bat species during critical hibernation and maternity periods (time periods vary by species and seasonal	Action: Prohibit BLM-authorized activities that could adversely affect federally listed or BLM sensitive bat species during critical hibernation and maternity periods (generally May 1 to August 31 for the maternity period and	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		conditions).	November 1 to March 31 for the hibernation period, but time periods may vary by species and seasonal conditions).		
151.	Raptors (Includes Special Status Species)				
152.	Objective: No similar objective.	Objective: Maintain, protect, improve, and restore raptor habitat.			
153.	Action: No similar action.	Action: Within 0.25 mile of active nest sites, the following would apply to protect nests from disturbance: <ul style="list-style-type: none"> • Apply a CSU stipulation for fluid mineral leasing. • Manage as a ROW avoidance area. • Apply seasonal restrictions to all authorized activities (generally March 1 to August 31, but time periods vary by species and seasonal conditions). 	Action: Within 0.5-mile of active nest sites, the following would apply to protect nests from disturbance: <ul style="list-style-type: none"> • Apply a NSO stipulation for fluid mineral leasing. • Manage as a ROW exclusion area. • Close to mineral material disposal. • Close to nonenergy leasing. • Apply seasonal restriction to all authorized activities (generally March 1 to August 31, but time periods vary by species and seasonal conditions). 	Action: Same as Alternative B.	Action: Same as Alternative C.
154.	Action: No similar action.	Action: Restrict BLM-authorized activities that could adversely affect active golden eagle nests sites by providing a buffer around nest sites based on current guidance and consultation with the USFWS.			
155.	Action: No similar action.	Action: Apply raptor protection stipulations to power line ROWs to minimize electrocution. Protect raptors through the use of <i>Suggested Practices for Avian Protection on Power Lines</i> (APLIC 2006) or best available science.			
156.	Action: No similar action.	Action: Restrict wind energy development within 1 mile of active nest sites (except golden eagles, for which restrictions would be based on current guidance and consultation with the USFWS).			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
157.	Special Status Species				
158.	Overall Goal for Plants, Fish, and Wildlife: Manage special status species and their habitats to provide for their protection, conservation, and restoration/enhancement as part of an ecologically diverse healthy system.				
159.	Objective: No similar objective.	Objective: To conserve plants and animals (and their habitats) listed as threatened, endangered, or proposed by the USFWS or sensitive by the BLM with the overall objective of improving their populations to facilitate delisting and to prevent listing of BLM sensitive species under the ESA as amended.			
160.	Action: No similar action.	Action: Adhere to BLM-approved plant, soil, and wildlife survey protocols (to accurately establish baseline conditions) and guidelines for all surface disturbance projects.			
161.	Plants				
162.	GOAL: Manage special status plants and their habitats to provide for their conservation and restoration.				
163.	Objective: No similar objective.	Objective: Promote maintenance and recovery of federally listed, proposed, and candidate plant species by protecting all special status plant species and their habitat needs.	Objective: Same as Alternative B.	Objective: Same as Alternative B.	Objective: Same as Alternative B.
164.	<p>Action: Manage the following designated ACECs for the protection of special status plant species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <ul style="list-style-type: none">Virginia Range Williams Combleaf Habitat Area ACEC	<p>Action: Establish the following ACECs for the protection of special status plant species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none">Virginia Range Williams Combleaf Botanical ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none">Churchill Narrows	<p>Action: Establish the following ACECs for the protection of special status plant species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none">Virginia Range Williams Combleaf Botanical ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none">Churchill NarrowsBuckwheat Botanical	<p>Action: Establish the following ACECs for the protection of special status plant species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none">Virginia Range Williams Combleaf Botanical ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none">Churchill Narrows	<p>Action: Establish the following ACECs for the protection of special status plant species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none">Virginia Range Williams Combleaf Botanical ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none">Churchill NarrowsBuckwheat Botanical

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Buckwheat Botanical ACEC <ul style="list-style-type: none">Greater Sand Mountain ACEC	ACEC <ul style="list-style-type: none">Greater Sand Mountain ACEC.Pine Nut Mountains Williams Combleaf Botanical ACECSteamboat Buckwheat Botanical ACEC	Buckwheat Botanical ACEC <ul style="list-style-type: none">Pine Nut Mountains Williams Combleaf Botanical ACEC	ACEC
165.	Action: Use fencing, emergency OHV closure, and no disposal of BLM-administered lands, minerals’ coordination, or any other legal means necessary to protect identified threatened and endangered plant populations. Work with applicants who present mining plans to avoid destruction of threatened and endangered plant populations, following guidance in the 43 CFR 3802 and 3809 regulations.	Action: No similar action (see <i>Comprehensive Travel and Transportation Management</i>).			
166.	Action: Eliminate OHV use where threatened and endangered plants are located.	Action: No similar action (see <i>Comprehensive Travel and Transportation Management</i>).			
167.	Fish and Wildlife				
168.	GOAL: Manage special status species and their habitats in a manner that facilitates the protection, conservation, and restoration/enhancement of federally listed species and does not contribute to the federal listing of sensitive species.				
169.	Objective: No similar objective.	Objective: Promote restoration and enhancement of federally	Objective: Promote restoration and enhancement of federally listed, proposed,	Objective: Same as Alternative B.	Objective: Same as Alternative C.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		listed and proposed species by conserving and protecting their habitats.	and candidate species by conserving and protecting their habitats.		
170.	Action: Support reintroduction of Lahontan cutthroat trout, bighorn sheep, and other endemic species into suitable, potential and historic habitat. Specifically, the Stillwater, Clan Alpine, and Desatoya mountains for desert bighorn sheep and streams and springs identified by NDOW as potential habitat for Lahontan cutthroat trout and other threatened and endangered fish.	Action: No similar action.	Action: Support the reintroduction or augmentation of special status species to areas where these actions would not result in a decline of habitat quality and quantity for existing native wildlife species.	Action: No similar action.	Action: Support the introduction, reintroduction, or augmentation of special status species to areas where these actions would not result in a decline of habitat quality and quantity for existing native wildlife species.
171.	Action: Manage the following designated ACECs for the protection of special status wildlife species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <ul style="list-style-type: none"> Carson wandering skipper ACEC 	Action: Retain or establish the following ACECs for the protection of special status wildlife species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Greater Sand Mountain ACEC 	Action: Retain or establish the following ACECs for the protection of special status wildlife species (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <p><u>Existing:</u></p> <ul style="list-style-type: none"> Carson wandering skipper ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Clan Alpine Greater Sage-Grouse ACEC 	Action: No similar action.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Desatoya Greater Sage-Grouse ACEC • Dixie Valley Toad ACEC • Greater Sand Mountain ACEC • Pine Nut Bi-State Sage-Grouse ACEC • Virginia Mountains Greater Sage-Grouse ACEC 		
172.	Action: No similar action (see <i>Special Designations, Areas of Critical Environmental Concern - Carson wandering skipper ACEC</i>).	Action: Manage the Carson wandering skipper habitat near Winnemucca Ranch Road to protect this endangered species. <ul style="list-style-type: none"> • Coordinate with USFWS to identify primary habitat. • Close to motorized travel. • Not available for livestock grazing. • Continue existing mineral entry withdrawal. 	Action: No similar action (see <i>Special Designations, Areas of Critical Environmental Concerns – Carson wandering skipper ACEC</i>).	Action: Same as Alternative B.	Action: Manage the Carson wandering skipper habitat near Winnemucca Ranch Road to protect this endangered species. <ul style="list-style-type: none"> • Coordinate with USFWS to identify primary habitat. • Not available for livestock grazing. • Continue existing mineral entry withdrawal. <p>Any nonfederal lands in the area, identified as habitat for the Carson wandering skipper, would be considered for acquisition.</p>
173.	Greater Sage-Grouse (Bi-State distinct population segment and range wide population) <i>Note: The Bi-State distinct population segment habitat is considered to be priority habitat. Therefore, actions that refer to general habitat or Preliminary General Management Area (PGMA) apply only to the range-wide Greater Sage-Grouse population and not the Bi-State distinct population segment. All references to Greater Sage-Grouse PPMA apply to both the range-wide populations and the Bi-State distinct population segment priority habitat.</i>				
174.	GOAL: Maintain and/or increase abundance and distribution of Greater Sage-Grouse on BLM-administered lands by conserving, enhancing, or restoring the sagebrush ecosystem upon which populations depend, in cooperation with other conservation partners (Figure 2-6).				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
175.	Objective: No similar objective.	Objective: Protect, restore, enhance, and expand habitat for the Greater Sage-Grouse (Figure 2-7).			
176.	Action: No similar action.		Action: Within PPMA, water developments should be drained when not in use so they do not create a breeding ground for mosquitos that carry West Nile Virus. If it is determined, in coordination with NDOW, that the risk of West Nile Virus is minimal and other wildlife species could be negatively affected by draining a water development, a water development may be left in operation.		
177.	Action: No similar action.	Action: After soil disturbance or seeding associated with habitat rehabilitation in Greater Sage-Grouse PPMA, the land shall not be returned to soil-disturbing authorized uses for a minimum of two full growing seasons or until desired vegetation or habitat objectives are met. In general habitat, clearly define treatment objectives and allow a minimum of 2 growing seasons rest. If objectives are not met, consider deeming the treatment a failure and resuming uses at a modified (appropriate for the new site conditions) level.	Action: After soil disturbance or seeding associated with habitat rehabilitation in Greater Sage-Grouse PPMA and PGMA, the land shall not be returned to soil-disturbing authorized uses for a minimum of two full growing seasons or until vegetation or habitat objectives are met.	Action: Same as Alternative C.	
178.	Action: No similar action.	Action: Only use pesticides outside of the critical disturbance period (breeding and nesting/early brood rearing, generally	Action: No similar action.	Action: Treat sites within PPMAs and PGMA's that are dominated by invasive species through an integrated vegetation management approach using fire, chemical, mechanical, and biological methods based on site potential.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		March 1 to June 30). Only use chemicals with the lowest toxicity to birds that still provide control in coordination with USDA or Animal and Plant Health Inspection Service, depending on the target pest.			
179.	Action: No similar action.	Action: In PPMA, coordinate, plan, design, and implement vegetation treatments (e.g., juniper removal, fuels treatments, and green stripping) and associated effectiveness monitoring between Resources, Vegetation Management, Emergency Stabilization, and Burned Area Rehabilitation programs to: <ul style="list-style-type: none"> • Promote the maintenance of large intact sagebrush communities • Limit the expansion or dominance of invasive species and noxious weeds, including conifers, cheatgrass, and medusa head • Maintain or improve soil site stability, hydrologic function, 	Action: In PPMA and PGMA, coordinate, plan, design, and implement vegetation treatments (e.g., juniper removal, fuels treatments, and green stripping) and associated effectiveness monitoring between Resources, Vegetation Management, Emergency Stabilization, and Burned Area Rehabilitation programs to: <ul style="list-style-type: none"> • Promote the maintenance of large intact sagebrush communities • Limit the expansion or dominance of invasive species and noxious weeds, including conifers, cheatgrass, and medusa head • Maintain or improve soil site stability, hydrologic function, and biological integrity 	Action: Same as Alternative B.	Action: Same as Alternative C.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		and biological integrity <ul style="list-style-type: none"> Enhance the native plant community with appropriate shrub, grass, and forb composition identified in the applicable Ecological Site Description (ESD) where available. 	<ul style="list-style-type: none"> Enhance the native plant community with appropriate shrub, grass, and forb composition identified in the applicable Ecological Site Description (ESD) where available. 		
180.	Action: No similar action.	Action: Limit use of prescribed fire within greater sage grouse PPMA to sagebrush habitats that have annual precipitation levels above 12 inches and are not vulnerable to the establishment of invasive annual species. Prescribed fire may be permitted in Greater Sage-Grouse PPMA with less than 12 inches of precipitation if prescribed fire has been identified as the most appropriate tool to meet fuels management objectives.	Action: Prohibit use of prescribed fire within Greater Sage-Grouse PPMA and PGMA.	Action: Same as Alternative B.	Action: Identify opportunities for prescribed fire, including where prescribed fire has been identified as the most appropriate tool to meet fuels management objectives and Greater Sage-Grouse conservation objectives, and the potential expansion or dominance of invasive species has been determined to be minimal through an invasive species risk determination for the treatment project (see BLM Manual Section 9015).
181.	Action: No similar action.	Action: Improve habitat for Greater Sage-Grouse and other special status species by removing pinyon and/or juniper expansion within Greater Sage-Grouse PPMA.	Action: Improve habitat for Greater Sage-Grouse and other special status species by removing pinyon and/or juniper expansion within Greater Sage-Grouse PPMA and PGMA. In Phase II and III pinyon and/or juniper stands in PPMA and PGMA: <ul style="list-style-type: none"> Remove or reduce biomass to meet fuel and GRSG habitat objectives (see Table 2-5, Proposed Habitat Objectives for Greater Sage-Grouse). 		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Prioritize for treatment habitats that are being invaded by pinyon and/or juniper in Phase I or early Phase II condition. Habitats in late Phase II or Phase III condition would only be targeted for treatment under certain circumstances, such as to create movement corridors, connect habitats, or reduce the potential for catastrophic fire.	<ul style="list-style-type: none"> • Take appropriate action to establish desired understory species composition, including seeding and invasive species treatments. • In areas with a sagebrush component, select a treatment method that maintains or improves sagebrush and shrub cover and composition. 		
182.	Action: No similar action.	Action: Apply timing limitation stipulations to fluid mineral leasing within 0.6 mile of springs, meadows, and riparian corridors (late brood-rearing habitat) within Greater Sage-Grouse PPMA and PGMA from May 15 to August 15 (dates can be extended to September 15 for the Bi-State distinct population segment). Prohibit surface use during the identified timeframe. This stipulation does not apply to operations and maintenance of production facilities.	Action: No similar action. <i>Note: Greater Sage-Grouse PPMA and PGMA would be closed to fluid mineral leasing under Alternative C (Row 186).</i>	Action: No similar action. <i>Note: Greater Sage-Grouse PPMA and PGMA would have a NSO stipulation for fluid mineral leasing (Row 186).</i>	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
183.	Action: No similar action.	<p>Action: For leases within PPMA, restrict disturbance activities within 4-mile buffer area from active Greater Sage-Grouse leks during the breeding season (Approximately March 1 to June 30).</p> <p>The distance could be reduced or increased based on information from the best available science that would incorporate variables such as topography, vegetation, and potential impacts from disturbance activities.</p>	Action: For leases entirely within PPMA, prohibit disturbance activities within a 4-mile buffer area of active Greater Sage-Grouse leks during the breeding season (Approximately March 1 to June 30).		
184.	<p>Action: Negotiate off-site mitigation for discretionary permitted activities when an irretrievable loss of critical or crucial habitat is unavoidable, or a significant long-term adverse impact would occur.</p> <p><i>Note: Applies to all critical or crucial habitat not just sage-grouse habitat.</i></p>	Action: Within Greater Sage-Grouse PPMA, offset habitat loss through mitigation to ensure GRSB habitat goals are met. When providing guidance to applicants, ensure project proponents that may be contributing to potential mitigation are aware of such areas.	Action: Identify off-site mitigation areas within PGMA with reasonable potential to achieve vegetation objectives and meet the seasonal habitat needs of GRSB. These are areas where mitigation would occur for application of off-site mitigation actions.	Action: Same as Alternative B.	
185.	Action: Negotiate off-site mitigation during the plan of operations review for locatable mineral actions	Action: Authorize locatable mineral development activity per the 43 CFR 3809	Action: Negotiate off-site mitigation within the WAFWA management zone, with coordination from	Action: Negotiate off-site mitigation within the WAFWA management zone, with coordination from NDOW, to improve habitat during the permitting process review for locatable mineral actions that would	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	when an irretrievable loss of critical or crucial habitat is unavoidable, or a significant long-term adverse impact would occur.	regulations through Plan of Operation Approvals and apply mitigation and Greater Sage-Grouse BMPs that minimizes the loss of greater sage grouse PPMA or provides for enhancement of Greater Sage-Grouse PPMA through off-site mitigation within the WAFWA management zone.	NDOW, to improve habitat during the permitting process review for locatable mineral actions that would in the loss of Greater Sage-Grouse PPMA or other areas essential to survival of Greater Sage-Grouse. The desired outcome for compensatory mitigation is improving a minimum of 4 acres of habitat with similar potential for every acre of lost habitat.	result in the loss of Greater Sage-Grouse PPMA or other areas essential to survival of Greater Sage-Grouse. The desired outcome for compensatory mitigation is improving a minimum of 3 acres of habitat with similar potential for every acre of lost habitat.	
186.	Action: No similar action.	Action: Apply a CSU stipulation for fluid mineral leasing within Greater Sage-Grouse PPMA (275,600 acres; Figure 2-7). This may include restrictions on construction during certain hours of the day.	Action: Close Greater Sage-Grouse PPMA and PGMA to fluid mineral leasing (414,200 acres; Figure 2-7).	Action: Apply a NSO stipulation for fluid mineral leasing within Greater Sage-Grouse PPMA (275,600 acres; Figure 2-7) with no exceptions, modifications, and waivers.	
187.	Action: No similar action.			Action: Apply a NSO stipulation for fluid mineral leasing within Greater Sage-Grouse PGMA (138,600 acres; Figure 2-7). Exceptions, modifications, and waivers would be applied as outlined in Appendix C .	
188.	Action: No similar action.		Action: Allow geophysical exploration within Greater Sage-Grouse PPMA and PGMA that does not result in crushing of sagebrush vegetation or create new or additional surface disturbance. Allow heli-	Action: No similar action.	Action: Same as Alternative C.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			portable drilling methods, articulated rubber-tired vehicles that “leave no trace,” and vibro-seis geophysical operations conducted on existing roads and bladed shoulders. Geophysical operations would be subject to timing and CSU limitations established for Greater Sage-Grouse PPMA and PGMA.		
189.	Action: No similar action.		Action: Close Greater Sage-Grouse PPMA and PGMA (414,200 acres; Figure 2-7) to nonenergy mineral leasing and new mineral material disposal.	Action: No similar action.	Action: Same as Alternative C.
190.	Action: No similar action.	Action: Manage Greater Sage-Grouse PPMA as ROW avoidance areas (275,600 acres).	Action: Manage Greater Sage-Grouse PPMA and PGMA as ROW exclusion areas (414,200 acres).	Action: Manage Greater Sage-Grouse PPMA and PGMA as ROW avoidance areas (414,200 acres).	
191.	Action: No similar action.	Action: No similar action.	Action: Manage PPMA and PGMA as ROW exclusion for utility-scale commercial solar and wind energy facilities (i.e., facilities that generate 20 megawatts MW or more).	Action: No similar action.	Action: Same as Alternative C.
192.	Action: No similar action.	Action: No structures or power lines taller than the surrounding vegetation that could serve as predator perches would be installed within 2 miles	Action: Prohibit the installation of tall structures and power lines within 3 miles or line-of-sight distance of a nest if such structures would result in an increase in predation on Greater Sage-Grouse by raptors/ Corvids during the lekking period (March 1 to May 15).		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		of a lek, and no structures greater than 8 feet tall that could serve as predator perches shall be installed within any Greater Sage-Grouse habitat unless they are equipped with anti-perching devices.			
193.	Action: No similar action.	<p>Action: Restrict fence construction or consider fence removal within Greater Sage-Grouse PPMA within 1.25 miles of active leks and in movement corridors between seasonal habitats, unless the objective is to benefit Greater Sage-Grouse habitat, provide resource protection, protect human health and safety, promote successful reclamation, or improve land health.</p> <p>If fence construction is absolutely necessary, according to the guidelines stated above, structures must be constructed and marked to prevent collisions based on BLM policy and guidance.</p>	<p>Action: Restrict fence construction or consider fence removal within Greater Sage-Grouse PPMA and PGMA within 2 miles of active leks and in movement corridors between seasonal habitats, unless the objective is to benefit Greater Sage-Grouse habitat, provide resource protection, protect human health and safety, promote successful reclamation, or improve land health.</p> <p>If fence construction is absolutely necessary, according to the guidelines stated above, structures must be constructed and marked to prevent collisions based on BLM policy and guidance.</p>	Action: Same as Alternative B.	Action: Remove, modify, or mark permanent and temporary fences in areas of high risk for bird strikes within PPMAs and PGMA. Permanent and/or temporary fences would not be located on or across active leks. Remove and re-locate existing fences that are located on or across active leks.
194.	Action: Restrict activities that might be disturbing to	Action: Implement time-of-day and time-of-year	Action: Implement time-of-day and time-of-year restrictions within 4 miles of active leks in Greater Sage-Grouse PPMA and PGMA from March 1 to May 15 to mitigate		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	sage-grouse between February 15 and May 15.	restrictions within 2 miles of active leks in Greater Sage-Grouse PPMA from March 1 to May 15 to mitigate impacts from authorized project-related activities. Time of year restrictions and distance may be expanded to include Greater Sage-Grouse wintering, nesting, or brood-rearing habitat.	impacts from authorized project-related activities. Time of year restrictions and distance may be expanded to include Greater Sage-Grouse wintering habitat, nesting, or brood-rearing habitat.		
195.	Action: No similar action.	Action: Implement time-of-year and time-of-day travel restrictions within 2 miles of leks in Greater Sage-Grouse PPMA from March 1 to May 15 to mitigate impacts from authorized project-related activities. Time of year restrictions and distance may be expanded to include Greater Sage-Grouse, nesting, or brood-rearing habitat.	Action: Prohibit motorized and mechanized travel on a seasonal basis within 4 miles of leks in sage-grouse PPMA from March 1 to May 15 to mitigate impacts from authorized project-related activities. Time of year restrictions and distance may be expanded to include Greater Sage-Grouse wintering, nesting, or brood-rearing habitat.		Action: Implement time-of-year and time-of-day travel restrictions within 4 miles of leks in Greater Sage-Grouse PPMA from March 1 to May 15 to mitigate impacts from authorized project-related activities. Time of year restrictions and distance may be expanded to include Greater Sage-Grouse wintering, nesting, or brood-rearing habitat.
196.	Action: No similar action.	Action: Retain and acquire lands within Greater Sage-Grouse PGMA. Consider exceptions when: <ul style="list-style-type: none"> • Disposal and/or acquisitions of public lands would allow for more contiguous 	Action: Retain and acquire lands within PPMA and PGMA.		Action: Retain and acquire public ownership of Greater Sage-Grouse PPMA and PGMA. Consider exceptions when: <ul style="list-style-type: none"> • Disposal and/or acquisitions of public lands would allow for more contiguous federal

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>federal ownership patterns within the Greater Sage-Grouse habitat area, or where a land tenure adjustment would result in a net gain in amount or quality of Greater Sage-Grouse habitat.</p> <ul style="list-style-type: none"> Lands that are acquired (exchange, purchase or easement) for Greater Sage-Grouse habitat, are managed as Greater Sage-Grouse PPMA. <p>Where significant conservation actions could be achieved in Greater Sage-Grouse PPMAs, seek to acquire lands with intact subsurface mineral estate by donation, purchase, or exchange in order to best conserve, enhance or restore sage-grouse habitat.</p>			<p>ownership patterns within Greater Sage-Grouse habitat, or where a land tenure adjustment would result in a net gain in amount or quality of Greater Sage-Grouse habitat.</p> <ul style="list-style-type: none"> Lands that are acquired (exchange, purchase or easement) for Greater Sage-Grouse habitat, are managed as Greater Sage-Grouse PPMA. <p>Where significant conservation actions could be achieved in Greater Sage-Grouse PPMAs, seek to acquire lands with intact subsurface mineral estate by donation, purchase, or exchange in order to best conserve, enhance or restore sage-grouse habitat.</p>
197.	Action: No similar action.	<p>Action: If project-generated acoustical noise is expected to approach scientifically identified thresholds for Greater Sage-Grouse, mitigation measures must be employed to reduce impacts to below threshold levels.</p> <ul style="list-style-type: none"> Limit noise to less than 10 decibels above ambient measures (20to 24 dBA) at sunrise at the perimeter of a lek during active lek season (Patricelli et al. 2010; Blickley et al. In preparation). 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
198.	Action: No similar action.		Action: Make allotments containing Greater Sage-Grouse PPMA and PGMA unavailable to livestock grazing.	Action: No similar action. <i>Note: Allotments are available for grazing but have numerous implementation-level protections for sage-grouse habitat that could be established.</i>	
199.	Wild Horses and Burros				
200.	GOAL: Manage healthy animals in balance with other uses and the productive capacity of their habitat within Herd Management Areas (HMAs).				
201.	Objective: Maintain or improve the condition of public rangelands to enhance productivity for wild horses and burros within HMAs (1,235,200 acres).	Objective: Manage HMAs where habitat conditions (forage, water, cover, space) are adequate to support healthy populations and where a thriving natural ecological balances and multiple-use relationship can be achieved and maintained. Manage and protect wild horses and burros and their habitat on 13 HMAs (996,500 acres) and retain herd areas (Has) where wild horses and burros occurred on December 15, 1971.	Objective: Manage HMAs where habitat conditions (forage, water, cover, space) are adequate to support healthy populations and where a thriving natural ecological balances and multiple-use relationship can be achieved and maintained. Manage and protect wild horses and burros and their habitat on 12 HMAs (1,090,000 acres) and retain HAs where wild horses and burros occurred on December 15, 1971.	Objective: Same as Alternative B.	Objective: Manage HMAs where habitat conditions (forage, water, cover, space) are adequate to support healthy populations and where a thriving natural ecological balances and multiple-use relationship can be achieved and maintained. Manage and protect wild horses and burros and their habitat on 13 HMAs (1,070,200 acres) and retain HAs where wild horses and burros occurred on December 15, 1971.
202.	Action: Maintain HMAs and HAs as indicated on Figure 2-8. <ul style="list-style-type: none">• Augusta Mountains HA/HMA• Clan Alpine HA/HMA• Desatoya Mountains HA/HMA• Dogskin Mountains HA/HMA	Action: Maintain HMAs and HAs as indicated on Figure 2-9. <ul style="list-style-type: none">• Augusta Mountain HA/HMA• Clan Alpine HA/HMA• Desatoya Mountains HA/HMA• Dogskin Mountains HA• Flanigan HA/HMA	Action: Maintain HMAs and HAs as indicated on Figure 2-10. <ul style="list-style-type: none">• Augusta Mountains HA/HMA• Clan Alpine HA/HMA• Desatoya Mountains HA/HMA• Dogskin Mountains HA• Flanigan HA/HMA	Action: Same as Alternative B.	Action: Maintain HMAs and HAs as indicated on Figure 2-11. <ul style="list-style-type: none">• Augusta Mountains HA/HMA• Clan Alpine HA/HMA• Desatoya Mountains HA/HMA• Dogskin Mountains HA• Flanigan HA/HMA

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> • Flanigan HA/HMA • Garfield Flat HA/HMA • Granite Peak HA/HMA • Fort Sage HA/HMA • Horse Mountain HA/HMA • Horse Springs HA • Lahontan HA/HMA • Marietta HA/HMA • Montgomery Pass HA/HMA • New Pass HA/HMA • North Stillwater HA/HMA • Pilot Mountain HA/HMA • Pine Nut HA/HMA • South Stillwater HA/HMA • Tule Ridge and Mahogany Flat HA/HMA • Pah Rah Mountain HA • Wassuk HA/HMA 	<ul style="list-style-type: none"> • Garfield Flat HA • Granite Peak HA • Fort Sage HA/HMA • Horse Mountain HA • Horse Springs HA • Lahontan HA/HMA • Marietta HA/HMA • Montgomery Pass HA/HMA • New Pass HA/HMA • North Stillwater HA/HMA • Pilot Mountain HA/HMA • Pine Nut HA/HMA • South Stillwater HA • Tule Ridge and Mahogany Flat HA • Pah Rah Mountain HA • Wassuk HA/HMA 	<ul style="list-style-type: none"> • Garfield Flat HA/HMA <ul style="list-style-type: none"> ○ Coordinate with the private land owner and change the Garfield Flat HMA into a nonreproductive HMA. • Granite Peak HA • Fort Sage HA/HMA • Horse Mountain HA • Horse Springs HA • Lahontan HA • Marietta HA/HMA • Montgomery Pass HA/HMA • New Pass HA/HMA • North Stillwater HA/HMA • Pilot Mountain HA/HMA • Pine Nut HA/HMA • South Stillwater HA • Tule Ridge and Mahogany Flat HA • Pah Rah Mountain HA • Wassuk HA 		<ul style="list-style-type: none"> • Garfield Flat HA/HMA • Granite Peak HA • Fort Sage HA/HMA • Horse Mountain HA • Horse Springs HA • Lahontan HA/HMA • Marietta HA/HMA • Montgomery Pass HA/HMA • New Pass HA/HMA • North Stillwater HA/HMA • Pilot Mountain HA/HMA • Pine Nut HA/HMA • South Stillwater HA • Tule Ridge and Mahogany Flat HA • Pah Rah Mountain HA • Wassuk HA
203.	Action: Maintain appropriate management levels (AMLs) through removals of excess animals and the use of contraceptives.	Action: Manage wild horses and burros at identified AML range. When populations exceed the upper AML level and monitoring data supports that excess animals are present and need to be removed, gather wild horses and burros to reduce horse and burro numbers to the lower limit of the AML range or to a level below the AML to allow for 4 to 5 years before the upper range of AML is exceeded.	Action: Manage wild horses and burros at identified AML range. When populations approach the upper AML level and monitoring data supports that excess animals are present, or will be present within the next foaling season, and need to be removed, gather wild horses and burros to reduce horse and burro numbers to the lower limit of AML range. The goal is to maintain the wild horses and burros population between the lower		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				and the upper AML range without exceeding the upper level.	<ul style="list-style-type: none"> • Frequency of gathers would be planned to conduct gathers before the high range of AML has been reached. • HMA-specific population control programs would dictate type of gather and frequency of fertility control techniques. Possible control techniques may include contraceptive, sterilization, skewing sex ratios, and removal. • Gathers would be prioritized in Greater Sage-Grouse PPMAs and PGMAs and wildlife priority habitat for other special status species. • Conflicts with home owners, private property owner, general public, and motorists would be minimized by gathering as soon as practical to provide for the safety of the public. • Fencing may be used to protect the public.
204.	Action: No similar action.	Action: Continue gathers to remove excess wild horses and burros through approved methods.	Action: Conduct gathers to remove excess wild horses and burros and implement population control programs.	Action: Conduct gathers to remove excess wild horses and burros and implement population control programs. When feasible and appropriate, gather wild horses or burros that need to be removed from the range in response to drought emergencies.	
205.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Through the Rangeland Health Evaluation or HMA Plan process, assess the adequacy of 4 habitat components (forage, water, cover, space) and capability of the HMA or metapopulation to support healthy wild horses and burros and healthy rangeland over the long term. • Identify suitable, acceptable, marginal, and unsuitable habitat within portions of or entire HMAs through a modified habitat evaluation process and application of suitability criteria. Adjustments in AML may be necessary depending on habitat evaluations. Based on habitat evaluations, areas or HMAs maybe determined to be unsuitable for wild horses due to water quantity or distribution, sparse or inaccessible vegetation, or other factors. These areas would be excluded from AML determination. • Adjust the habitat evaluation process as necessary to account for HMA- or population-specific information applicable to capability, suitability, and management of wild horses and burros in that area, and as information 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		becomes available in the future. <ul style="list-style-type: none">• Conduct apportionment of forage for wild horses and burros and livestock on a case-by-case basis.• Evaluate HMA designations and removal needs in regards to public safety along highways and urban areas.			
206.	Action: No similar action.	Action: Manage wild horses and burros in a manner that ensures significant progress is made toward achieving the Standards and Guidelines for Rangeland Health and Wild Horses and Burros, and other site-specific or landscape-level objectives.			
207.	Action: During periodic removals remove animals that have established home ranges outside of the HMAs first.	Action: No similar action.			
208.	Action: No similar action.		Action: Seek innovative solutions through a cooperative relationship with local communities and other organizations regarding wild horses and burros.		
209.	Action: No similar action.	Action: Manage wild horses and burros that are currently administered via MOUs* in accordance with this RMP or applicable implementation plans, unless otherwise specified in the MOU. Develop interagency and interoffice MOUs to manage wild horses and burros as applicable. *MOU is defined in this case as agreements with other district offices and agencies where wild horses and burros are managed across district office and agency administrative boundaries.			
210.	Action: Maintain Horse Springs, Pah Rah, and the southern portion of the Pine Nut Mountains HAs as horse-free due to a mix of land ownership.	Action: Convert the following HMAs to HAs: <ul style="list-style-type: none">• Dogskin Mountains• Garfield Flat• Granite Peak• Horse Mountain• South Stillwater• Tule Ridge and Mahogeny Flat	Action: Convert the following HMAs to HAs: <ul style="list-style-type: none">• Dogskin Mountains• Granite Peak• Horse Mountain• Lahontan• South Stillwater• Tule Ridge and Mahogeny Flat• Wassuk	Action: Same as Alternative B.	Action: Convert the following HMAs to HAs: <ul style="list-style-type: none">• Dogskin Mountains• Granite Peak• Horse Mountain• South Stillwater• Tule Ridge and Mahogeny Flat• Wassuk
211.	Action: No similar action.	Action: Work with the Lahontan State Park and Reclamation-Lahontan Basin Area Office to allow wild horses access to water and forage within the park through the	Action: All wild horses and burros within the Lahontan HMA would be removed due to the lack of water on BLM-administered land upon coordinating with Lahontan State Park and Reclamation-	Action: No similar action.	Action: An increase in AML would be contingent upon coordinating with Lahontan State Park and Reclamation-Lahontan Basin Area Office in developing an agreement for legal access to water.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		development of a cooperative agreement while maintaining horse as a non-reproductive herd.	Lahontan Basin Area Office.		
212.	Action: Set and maintain AMLs that are in balance with other uses and the productive capacity of the habitat within the HMAs.	Action: Complete carrying capacity analysis using Actual Use and Utilization data through Standards and Guidelines Evaluations and Rangeland Health Assessments. When evaluating AML, adjust AML with emphasis on multiple-use needs. Prioritize management of wild horses and burros in HMAs that provide adequate resources for wild horses and burros and result in minimal conflicts with other resource uses and values.	Action: Complete carrying capacity analysis using Actual Use and Utilization data through Standards and Guidelines Evaluations and Rangeland Health Assessments. When evaluating AML, emphasize maintaining healthy and genetically diverse wild horses and burros. Prioritize management of wild horses and burros in HMAs that have potential to provide adequate resources for wild horse and burros. Through Rangeland Health Evaluations, wild horse AMLs would be assessed. Through implementation of water sources, removal of livestock, removal of fences, and re-vegetation projects, AMLs would be increased to maximize the number of wild horses or burros that could be supported in HMAs and still maintain thriving natural	Action: Complete carrying capacity analysis using Actual Use and Utilization data through Standards and Guidelines Evaluations and Rangeland Health Assessments. When evaluating AML and allocation of forage among rangeland users, assess the suitability of existing HMAs to sustain healthy, genetically diverse populations of wild horses and burros in balance with the thriving natural ecological balance of their habitat and other multiple uses. Balance management of HMAs in areas that provide sufficient resources for wild horse and burros with other resource uses and values.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			ecological balance and avoid deterioration of the range.		
213.	Wildland Fire Ecology and Management				
214.	GOAL: Manage wildland fire as an integral part of the ecosystem, improve the diversity of vegetation, and reduce fire hazard fuels.				
215.	Objective: Carson City Field Office is divided into 4 fire management categories: A, B, C, and D (Figure 2-12). Fire will be managed in these areas according to guidance outlined in the Consolidated RMP.	Objective: No similar objective.			
216.	Action: Wildfires in Category A areas will be suppressed with the intent of holding them to 10 acres or less 90 percent to the time and continuing aggressive suppression until fires are contained. Category A fire management, with full suppression, was identified for approximately 21,000 acres in the Carson City District administrative boundary.	Action: No similar action.			
217.	Action: Wildfires in Category B areas will be suppressed with the intent of holding 90 percent to 10 acres or less in forested areas, and to 25 acres or less in brush or grass	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	areas. Category B fire management was identified for approximately 467,000 acres in the Carson City District administrative boundary.				
218.	Action: The management for Category C areas will be to contain unplanned ignitions to less than 2,000 acres 90 percent of the time in all vegetative types. Fire suppression tactics will be constrained to protect scenic, natural resource, and wilderness values. Category C fire management was identified for approximately 1,119,100 acres in the Carson City District administrative boundary.	Action: No similar action.			
219.	Action: Wildfires in Category D will have no specific acreage limitation. Fires will be contained by appropriate means where and when conditions will result in significant damage to natural resources or threaten private developments. Category D fire management was identified for approximately 3,104,900	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	acres within the Carson City District administrative boundary.				
220.	Objective: No similar objective.	Objective: All fire management actions whether they are related to fire suppression, fuels treatment, community education and assistance, or emergency stabilization and rehabilitation would be conducted in a manner consistent with the primary priority of firefighter and public safety.			
221.	Action: No similar action.	Action: Wildland fire management response actions taken would be specifically pre-defined in fire management plans and other operating plans that outline specific goals, objectives, and constraints by specific Fire Management Units within the Fire Planning Unit.			
222.	Action: No similar action.	Action: A full range of fire management activities (as outlined in the fire management plan) and options would be utilized to protect all identified values at risk.	Action: Minimum impact suppression tactics would apply, whereby the environmental impacts of emergency fire management methods would be no greater than necessary to meet fire management objectives. The use of dozers would only be authorized when there is a threat to public safety or property damage. Chemical agents would not be allowed for suppression activities.	Action: Same as Alternative B.	Action: A full range of fire management activities and options would be utilized to protect all values at risk and sustain healthy ecosystems within acceptable risk levels. Local agency administrators and resource advisors would convey protection priorities to incident commanders.
223.	Objective: No similar objective.	Objective: Protect identified values at risk from catastrophic impacts of wildfire and wildfire suppression activities.	Objective: Protect sensitive cultural, paleontological, biological, and other natural resources from catastrophic impacts of wildfire and wildfire suppression activities.	Objective: Protect all identified wildland urban interface values at risk from catastrophic impacts of wildfire and wildfire suppression activities.	Objective: Protect wildland urban interface, sensitive cultural, paleontological, biological, and other natural resources from catastrophic impacts of wildfire and wildfire suppression activities.
224.	Action: No similar action.	Action: The assignment of one or more resource advisor would be a	Action: At least one resources advisor would be assigned to all wildfires when	Action: The assignment of one or more resource advisors would be a standard practice for all wildfires over 100 acres or when there is an identified value at	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		standard practice for all wildfires over 100 acres.	a there is an identified value at risk.	risk.	
225.	Objective: No similar objective.	Objective: Implement hazardous fuels reduction projects where the negative impacts of wildland fire are greatest to property, infrastructure, and improvements.	Objective: Implement hazardous fuels reduction projects where the negative impacts of wildland fire are greatest on sensitive biological, cultural, and other natural resources.	Objective: Implement hazardous fuels reduction projects where the negative impacts of wildland fire are greatest to health and safety within the urban interface.	Objective: Implement hazardous fuels reduction projects where the negative impacts of wildland fire are greatest to health and safety, sensitive biological, cultural, and other natural resources.
226.	Action: No similar action.	Action: Utilize wildfire, prescribed fire, and nonfire fuels treatments to modify vegetation communities to achieve condition class, fuels, habitat, watershed, and riparian objectives.	Action: Design and implement fuels treatments that would maintain, protect, and expand healthy resilient vegetative ecosystems.	Action: Design and implement fuels treatments that would create fire safe communities resistant to catastrophic wildfire events.	Action: Utilize wildfire, prescribed fire, and nonfire fuels treatments to create fire safe communities and modify vegetation communities to achieve condition class, fuels, habitat, watershed, and riparian objectives.
227.	Objective: Rehabilitation projects will be conducted to achieve the following: stabilize soils; re-establish hydrologic function; maintain and enhance biological integrity; promote plant resiliency; limit expansion or dominance or invasive species; and reestablish native species.	Objective: Emergency Stabilization and Burned Area Rehabilitation projects would be prioritized as follows: stabilize soils; re-establish hydrologic function; maintain and enhance biological integrity; promote plant resiliency; limit expansion or dominance or invasive species; and reestablish native species.			
228.	Action: No similar action.	Action: Prevent cheatgrass and other invasive species from dominating burned areas	Action: Design and implement emergency stabilization and burned area rehabilitation treatments for	Action: Design and implement emergency stabilization and burned area rehabilitation	Action: Design and implement emergency stabilization and burned area rehabilitation treatments to

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		and altering the natural fire regime by re-establishing appropriate species/subspecies.	high value wildlife habitat by re-establishing appropriate native species/subspecies and important understory plants relative to site potential.	treatments to protect wildland urban interface areas from subsequent wildfires by using fire resistant species.	protect wildland urban interface areas, improve high value wildlife habitat by re-establishing appropriate species/subspecies and important understory plants relative to site potential and prevent invasive species dominance.
229.	Action: No similar action.	Action: Plant material would be selected based on availability, adaptation (site potential), and probability of success for restoration work.	Action: Based on availability, adaptation (site potential), and probability of success the use of native plant material would be used for restoration work.	Action: Based on availability, adaptation (site potential), and probability of success the use of native plant material is preferred for restoration work. Where probability of success or native seed availability is low, nonnative seed may be used.	
230.	Objective: No similar objective.	Objective: Employ fire prevention and education strategies that reduce human-caused wildfires.		Objective: Employ fire prevention and education strategies that reduce human-caused wildfires with special emphasis in the wildland urban interface.	Objective: Employ fire prevention and education strategies that reduce human-caused ignitions (e.g., fireworks, recreational shooting etc.)with special emphasis in the urban interface, campgrounds and transportation corridors.
231.	Action: No similar action.	Action: Develop a wildland prevention education program through direct contact, multimedia and collaboration with fire prevention partners.			
232.	Cultural Resources				
233.	GOAL: Preserve and protect cultural resources ensuring respectful and appropriate use by present and future generations.				
234.	Actions common to all: <ul style="list-style-type: none">• Conduct proactive consultation with Native American Nations and its members to identify cultural resources, significant places, non-destructive scientific studies, and respectful public education.• Provide opportunities for scientific study and educational and interpretive uses of cultural resources.• Inventory and document at-risk historic properties in support of monitoring and law enforcement efforts.• Seek to reduce imminent threats and resolve potential conflicts from natural- or human-caused deterioration, or from other resource uses.				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Support partnerships for documentation, stewardship, and protection of cultural resources. 				
235.	Objective: No similar objective.	Objective: Protect archaeological, historical, and cultural resources and manage for information, public values, and conservation in conjunction with other multiple uses.			
236.	Action: No similar action.	Action: Management of historic roads and trails that are eligible for the National Register of Historic Places (NRHP) but are not Congressionally designated: <ul style="list-style-type: none"> Manage as a ROW avoidance (0.25-mile buffer of either side of center line). Direct and indirect adverse effects on eligible or unevaluated trail segments and associated sites would be mitigated by avoidance, project redesign, data collection, interpretation, public education, or other means. 	Action: Management of historic roads and trails that are eligible for the NRHP but are not Congressionally designated: <ul style="list-style-type: none"> Manage as a ROW avoidance (2.5-mile buffer of either side of center line). No surface-disturbing activities would be allowed on the trail, except for trail traffic. Direct and indirect adverse effects on eligible or unevaluated trail segments and associated sites would be mitigated by avoidance, project redesign, data collection, interpretation, public education, or other means. 	Action: Same as Alternative B.	Action: Management of historic roads and trails that are eligible for the NRHP but are not Congressionally designated: <ul style="list-style-type: none"> Manage as a ROW avoidance (1-mile buffer of either side of center line). Direct and indirect adverse effects on eligible or unevaluated trail segments and associated sites would be mitigated by avoidance, project redesign, data collection, interpretation, public education, or other means.
237.	Action: No similar action.	Action: Protect the cultural and historic values of rock art sites (within 0.125 mile) <ul style="list-style-type: none"> Prohibit surface-disturbing activities and visual intrusions within these areas if they adversely affect these 	Action: Protect the cultural and historic values of rock art sites (within 1 mile) <ul style="list-style-type: none"> Prohibit surface-disturbing activities and visual intrusions within these areas if they adversely affect these values as identified through the 	Action: Protect the cultural and historic values of rock art sites (within 0.125 mile) <ul style="list-style-type: none"> Prohibit surface-disturbing activities and visual intrusions within these areas if they adversely affect 	Action: Protect the cultural and historic values of rock art sites (within 0.5 mile or visual horizon whichever is less) <ul style="list-style-type: none"> Prohibit surface-disturbing activities and visual intrusions within these areas if they

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>values through the evaluation of eligibility for the NRHP.</p> <ul style="list-style-type: none"> • Include interpretive signing, fencing, barriers, and other activities in management of visitor use at rock art sites. • Consider applying site-specific and time-specific use limitations to avoid disturbance of traditional Native American practices at rock art sites. • Accommodate access and ceremonial use if identified as a Native American sacred site, and prohibit or modify surface-disturbing activities and visual intrusions in these areas if such actions would affect the physical integrity of Native American sacred sites, to the extent practical, permitted by law. 	<p>evaluation of eligibility for the NRHP.</p> <ul style="list-style-type: none"> • Include interpretive signing, fencing, barriers, and other activities in management of visitor use at rock art sites. • Consider applying site-specific and time-specific use limitations to avoid disturbance of traditional Native American practices at rock art sites. • Accommodate access and ceremonial use if identified as a Native American sacred site, and prohibit or modify surface-disturbing activities and visual intrusions in these areas if such actions would affect the physical integrity of Native American sacred sites, to the extent practical, permitted by law. 	<p>these values through the evaluation of eligibility for the NRHP.</p> <ul style="list-style-type: none"> • Include interpretive signing, fencing, barriers, and other activities in management of visitor use at rock art sites. • Encourage visitation through interpretation and education. • Consider applying site-specific and time-specific use limitations to avoid disturbance of traditional Native American practices at rock art sites. • Accommodate access and ceremonial use if identified as a Native American sacred site, and prohibit or modify surface-disturbing activities and visual intrusions in these areas if such actions would affect the physical integrity of Native American 	<p>adversely affect these values through the evaluation of eligibility for the NRHP.</p> <ul style="list-style-type: none"> • Include interpretive signing, fencing, barriers, and other activities in management of visitor use at rock art sites. • Consider applying site-specific and time-specific use limitations to avoid disturbance of traditional Native American practices at rock art sites. • Accommodate access and ceremonial use if identified as a Native American sacred site, and prohibit or modify surface-disturbing activities and visual intrusions in these areas if such actions would affect the physical integrity of Native American sacred sites, to the extent practical, permitted by law.

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				sacred sites, to the extent practical, permitted by law.	
238.	Action: No similar action.	Action: To protect NRHP-listed Properties and Districts, National Historic Landmarks, and Traditional Cultural Properties listed, eligible, or known but not yet formally designated for the NRHP: <ul style="list-style-type: none"> • Manage as a ROW avoidance area. • Apply a CSU stipulation for fluid mineral leasing. 	Action: To protect National Register-listed Properties and Districts, National Historic Landmarks, and Traditional Cultural Properties listed, eligible, or known but not yet formally designated for the NRHP: <ul style="list-style-type: none"> • Manage as a ROW exclusion area. • Apply a NSO stipulation for fluid mineral leasing. • Close to mineral material disposal. 	Action: To protect National Register-listed Properties and Districts, National Historic Landmarks, and Traditional Cultural Properties listed, eligible, or known but not yet formally designated for the NRHP: <ul style="list-style-type: none"> • Manage as a ROW avoidance area. • Apply a CSU stipulation for fluid mineral leasing. 	Action: To protect National Register-listed Properties and Districts, National Historic Landmarks, and Traditional Cultural Properties listed, eligible, or known but not yet formally designated for the NRHP: <ul style="list-style-type: none"> • Manage as a ROW avoidance area. • Apply a NSO stipulation for fluid mineral leasing.
239.	Action: No similar action.	Action: During project planning, consult with tribes regarding resources in connection with Native American religious values and practices. If visual resources in the project proposal area are important to traditional and religious tribal values, consider modifying or mitigating the project. If the project modification or mitigation cannot be accomplished to the satisfaction of the concerned parties,	Action: During project planning, consult with tribes regarding resources in connection with Native American religious values and practices. If visual resources in the project proposal area are important to traditional and religious tribal values, consider modifying or mitigating the project. If the project modification or mitigation cannot be accomplished to the satisfaction of the concerned parties, the project would not be authorized.	Action: Same as Alternative B.	

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		authorization of the project would be at the discretion of the BLM Authorized Officer.			
240.	<p>Action: Manage the following designated ACEC for the protection of cultural resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <ul style="list-style-type: none"> Pah Rah High Basin (Dry Lakes) Petroglyph District ACEC 	<p>Action: Retain or establish the following ACECs for the protection of cultural resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> Pah Rah High Basin Petroglyph ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District ACEC Fox Peak Cultural ACEC Greater Sand Mountain ACEC Grimes Point Archaeological District ACEC Namazii Wunu Cultural ACEC Tagim aša Cultural ACEC Virginia City National 	<p>Action: Retain or establish the following ACECs for the protection of cultural resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> Pah Rah High Basin Petroglyph ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Black Mountain/ Pistone Archaeological District ACEC Fox Peak Cultural ACEC Greater Sand Mountain ACEC Grimes Point Archaeological District ACEC Namazii Wunu Cultural ACEC Sand Springs Desert Study Area ACEC Tagim aša Cultural ACEC Virginia City National Landmark Historic 	<p>Action: Retain or establish the following ACECs for the protection of cultural resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> Pah Rah High Basin Petroglyph ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District ACEC Fox Peak Cultural ACEC Grimes Point Archaeological District ACEC Tagim aša Cultural ACEC Virginia City National Landmark Historic District ACEC 	<p>Action: Retain or establish the following ACECs for the protection of cultural resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> Pah Rah High Basin Petroglyph ACEC <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Fox Peak Cultural ACEC Grimes Point Archaeological District ACEC

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Landmark Historic District ACEC	District ACEC		
241.	Action: No similar action.	Action: No similar action (see <i>Special Designations, Areas of Critical Environmental Concern – Virginia City National Landmark Historic District ACEC</i>).			Action: Prohibit BLM-authorized activities within the Virginia City National Historic Landmark District. The following management action would also apply: <ul style="list-style-type: none"> • Close to nonenergy mineral leasing. • Manage as a ROW avoidance area. • Manage as exclusion area for wind development. • Vegetative permitting would not be authorized. • Manage as VRM Class III. • Apply NSO stipulations to fluid mineral leasing.
242.	Action: No similar action.	Action: No similar action (see <i>Special Designations, Areas of Critical Environmental Concern – Grimes Point Archaeological District ACEC</i>).			Action: Designate 15,900 acres as the Wyemaha Archaeological District for the protection of cultural resources (Figure 2-13) (The Grimes Point Archaeological District ACEC is located within the Wyemaha Archaeological District; see <i>Special Designations, Areas of Critical Environmental Concern – Grimes Point Archaeological District ACEC for ACEC specific management actions</i>) (Figure 2-13).

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
					<ul style="list-style-type: none"> • Provide for volunteer or staff monitoring of site. • Provide for law enforcement patrols of site. • Recommend for withdrawal from locatable mineral entry. • Close to fluid mineral leasing. • Manage as ROW avoidance area. • Vegetative permits would not be authorized. • Reclamation-administered lands relinquished back to the BLM will be incorporated into the Wyemaha Archaeological District boundary. • Provide for research and educational opportunities. • Establish MOU with Fallon Paiute-Shoshone Tribe for collaborative management of site. • Work with local community and tribal entities to establish interpretive tours of site. • Develop and construct an interpretive center.

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
243.	Action: No similar action.		Action: No similar action (see <i>Special Designations, Areas of Critical Environmental Concern – Black Mountain/Pistone Archaeological District ACEC</i>).	Action: No similar action.	Action: Prohibit BLM-authorized activities within the Pistone site (total 3,100 acres) if they adversely affect rock art resources. The following management action would also apply: <ul style="list-style-type: none">• Manage as a ROW avoidance.• Close to mineral material disposal.• Recommend for withdrawal from locatable mineral entry.• Close to fluid mineral leasing.• Prohibit use of fire retardant chemicals.
244.	Action: No similar action.		Action: Manage areas with high cultural site density such as but not limited to playa lake areas (e.g., Edwards Creek Playa, Teels Marsh, Rhodes Marsh, Gabbs Valley Playa, and Salt Wells Basin) and valleys (e.g., Edwards Creek, Dixie Valley, and Gabbs Valley) on a landscape level: <ul style="list-style-type: none">• Promote educational, research and interpretation opportunities.• Pursue funding for data synthesis.• Pursue archaeological district National Register and traditional cultural property nominations.		
245.	Objective: No similar objective.	Objective: Protect all known human burials regardless of their ethnic affiliation consistent with federal, state and local laws, as appropriate. Honor and respect Native American cultural values on their dead and funerary objects.			
246.	Action: No similar action.	Action: <ul style="list-style-type: none">• Implement Native American Graves Protection and Repatriation Act and consult with	Action: <ul style="list-style-type: none">• Implement Native American Graves Protection and Repatriation Act and consult with appropriate	Action: <ul style="list-style-type: none">• Implement Native American Graves Protection and Repatriation Act and consult with	Action: Same as Alternative B.

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>appropriate tribes when intentional excavation of Native American human remains is necessary or when inadvertent discovery occurs of Native American human remains.</p> <ul style="list-style-type: none"> • Close areas known to contain human burials to surface disturbance activities when feasible. Follow appropriate federal, state, and/or local laws when disturbance is necessary. • Avoidance of known or discovered human remains is the preferred option, subject to management requirements and results of any tribal consultation per Native American Graves Protection and Repatriation Act, as appropriate. Where avoidance is not feasible, archaeological data recovery may be implemented in accordance with 	<p>tribes when intentional excavation of Native American human remains is necessary or when inadvertent discovery occurs of Native American human remains.</p> <ul style="list-style-type: none"> • Close areas known to contain human burials to surface disturbance activities when feasible. Follow appropriate federal, state, and/or local laws when disturbance is necessary. • Preservation in place is the preferred option, but archaeological excavation (including data recovery) may be allowed to provide for appropriate research questions and/or management requirements, subject to compliance with federal, state and local laws, as appropriate. Prohibit SRPs within 500 feet of known burial location. 	<p>appropriate tribes when intentional excavation of Native American human remains is necessary or when inadvertent discovery occurs of Native American human remains.</p> <ul style="list-style-type: none"> • Close areas known to contain human burials to surface disturbance activities when feasible. Follow appropriate federal, state, and/or local laws when disturbance is necessary. • Avoidance of known or discovered human remains is the preferred option, subject to management requirements and results of any tribal consultation per Native American Graves Protection and Repatriation Act, as appropriate. Where avoidance is not feasible, archaeological data 	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		appropriate laws. SRPs would be authorized within 100 feet of a known burial locations on a case-by-case basis.		recovery may be implemented in accordance with appropriate laws. SRPs would be authorized within 200 feet of known burial location on a case-by-case basis.	
247.	Action: The BLM will pursue withdrawal of locatable minerals from operation of the 1872 Mining Law at Grimes Point Archaeological District, Sand Mountain Recreation Area and the Cold Springs Historical Site.	Action: No similar action (see <i>Geology and Minerals, Locatable Minerals</i>).			
248.	Action: Develop public outreach and education efforts within the planning area to instill a conservation ethic within the public regarding cultural resources.	Action: No similar action.			
249.	Action: Promote visitation and interpretation of the following resource: <ul style="list-style-type: none"> • Grimes Point Archaeological District • Hidden Cave • PX Stations at Sand Springs and Cold 	Action: No similar action (see <i>Cultural Resources, Special Designations, Areas of Critical Environmental Concern – Grimes Point Archaeological District ACEC and National Historic Trails</i>).			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Springs <ul style="list-style-type: none"> • Cold Springs Telegraph and Stage Stations • New Pass Overland Stage Station 				
250.	Paleontological Resources				
251.	GOAL: Promote stewardship, conservation, and appreciation of paleontological resources.				
252.	Actions common to all: <ul style="list-style-type: none"> • Allow for casual collection (noncommercial hand tools only) of nonrenewable resources such as rock, mineral specimens, common invertebrate fossils except where it conflicts with resource protection objectives and human safety concerns. • Pursue collaborative management opportunities with local agencies and communities for cooperative stewardship of resources. 				
253.	Objective: No similar objective.	Objective: Manage paleontological resource to prioritize research needs facilitate educational needs, and protect significant sites.			
254.	Action: Manage the following designated ACEC for the protection of paleontological resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <ul style="list-style-type: none"> • Stewart Valley Paleontological ACEC 	Action: Retain or establish the following ACECs for the protection of paleontological resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <u>Existing:</u> <ul style="list-style-type: none"> • Stewart Valley Paleontological ACEC <u>Proposed:</u> <ul style="list-style-type: none"> • Ruhenstroth Paleontological ACEC 	Action: Retain or establish the following ACECs for the protection of paleontological resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <u>Existing:</u> <ul style="list-style-type: none"> • Stewart Valley Paleontological ACEC <u>Proposed:</u> <ul style="list-style-type: none"> • Ruhenstroth Paleontological ACEC 	Action: Retain or establish the following ACECs for the protection of paleontological resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <u>Existing:</u> <ul style="list-style-type: none"> • Stewart Valley Paleontological ACEC <u>Proposed:</u> <ul style="list-style-type: none"> • Ruhenstroth Paleontological ACEC 	Action: Retain or establish the following ACECs for the protection of paleontological resources (see <i>Special Designations, Areas of Critical Environmental Concern</i> for further management actions for each ACEC): <u>Existing:</u> <ul style="list-style-type: none"> • Stewart Valley Paleontological ACEC <u>Proposed:</u> <ul style="list-style-type: none"> • Ruhenstroth Paleontological ACEC
255.	Action: No similar action.	Action: Allow for the development of currently known paleontological resources for uses in public education.			
256.	Action: No similar action.	Action: Identify areas that are likely to contain	Action: Identify areas that are likely to contain	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>paleontological resources.</p> <p>Classify all lands by potential fossil yield classification (PFYC) Class.</p> <p>1) Very Low 2) Low 3) Moderate 4) High 5) Very High</p> <p>An on-the-ground survey prior to approval of surface-disturbing activities and/or monitoring by a qualified paleontologist during surface-disturbing activities would be required for all activities authorized within PFYC Class 4 and 5 formations.</p>	<p>paleontological resources.</p> <p>Classify all lands by potential fossil yield classification (PFYC) Class.</p> <p>1) Very Low 2) Low 3) Moderate 4) High 5) Very High</p> <p>An on-the-ground survey prior to approval of surface-disturbing activities and/or monitoring by a qualified paleontologist during surface-disturbing activities would be required for all activities authorized within PFYC Class 4 and 5 formations. If potential paleontological resources are identified, surface-disturbing activities would be avoided.</p>		
257.	<p>Action: Manage paleontological resources for preservation, protection, scientific use, recreational use, and educational use. The BLM must insure that authorized land uses do not inadvertently damage or destroy important paleontological resources</p>	<p>Action: No similar action.</p>			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	on BLM-administered land.				
258.	Action: Provide recreational opportunities to the public for hobby and scientific collection without reducing the significance or interest of the resource.	Action: No similar action.			
259.	Visual Resources				
260.	GOAL: Manage BLM-administered land actions and activities to provide protection of the visual values and scenic quality of existing landscapes consistent with the Visual Resource Management (VRM) class objectives.				
261.	Objective: Protect the visual resource values of Bureau managed BLM-administered lands against unnecessary and undue degradation.	Objective: Identify and manage areas in the VRM class listed, according to the visual guidelines for each class.			
262.	Summary: Manage visual resources according to the following VRM class objectives (Figure 2-14): <ul style="list-style-type: none">• Class I: 564,100 acres• Class II: 38,300 acres• Class III: 320,600 acres• Class IV: 385,700 acres	Summary: Manage visual resources according to the following VRM class objectives (Figure 2-15): <ul style="list-style-type: none">• Class I: 564,100 acres• Class II: 56,800 acres• Class III: 1,379,400 acres• Class IV: 2,803,000 acres	Summary: Manage visual resources according to the following VRM class objectives (Figure 2-16): <ul style="list-style-type: none">• Class I: 981,900 acres• Class II: 733,900 acres• Class III: 213,400 acres• Class IV: 2,874,100 acres	Summary: Manage visual resources according to the following VRM class objectives (Figure 2-17): <ul style="list-style-type: none">• Class I: 564,100 acres• Class II: 66,400 acres• Class III: 185,900 acres• Class IV: 3,986,900 acres	Summary: Manage visual resources according to the following VRM class objectives (Figure 2-18): <ul style="list-style-type: none">• Class I: 564,100 acres• Class II: 513,600 acres• Class III: 1,383,900 acres• Class IV: 2,341,700 acres
263.	Action: Manage 564,100 acres according to VRM Class I objectives, including the following areas: <ul style="list-style-type: none">• WSAs (see <i>Wilderness Study Areas</i>)		Action: Manage 981,900 acres according to VRM Class I objectives, including the following areas: <ul style="list-style-type: none">• WSAs (see <i>Wilderness Study Areas</i>)	Action: Manage 564,100 acres according to VRM Class I objectives, including the following areas: <ul style="list-style-type: none">• WSAs (see <i>Wilderness Study Areas</i>)• East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>)	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) Alpine SRMA, East Fork Carson River Recreation Management Zone (RMZ; see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) Lands proposed for protection of wilderness characteristics 		
264.	Action: Manage 38,300 acres according to VRM Class II objectives, including the following areas: <ul style="list-style-type: none"> Incandescent Rocks Scenic Area Red Rocks Mount Siegel Burbank Canyons East Fork of the Carson River Indian Creek Walker Lake 	Action: Manage 56,800 acres according to VRM Class II objectives, including the following areas: <ul style="list-style-type: none"> Alpine SRMA, Dispersed Use RMZ (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>). ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Incandescent Rocks Scenic Stewart Valley Paleontological National Historic Trails (0.25-mile buffer on 	Action: Manage 733,900 acres according to VRM Class II objectives, including the following areas: <ul style="list-style-type: none"> SRMAs (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>): <ul style="list-style-type: none"> Alpine, Dispersed Use RMZ Sand Mountain Walker Lake West side of Virginia Range ERMAs (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> Bagley Valley Faye-Luther Pine Nut, Pine Nut 	Action: Manage 66,400 acres according to VRM Class II objectives, including the following areas: <ul style="list-style-type: none"> Alpine SRMA, Dispersed Use RMZ (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>) West side of Virginia Range. Incandescent Rocks Scenic ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) National Historic 	Action: Manage 513,600 acres according to VRM Class II objectives, including the following areas: <ul style="list-style-type: none"> Alpine SRMA, Dispersed Use RMZ (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>) ERMAs (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> Bagley Valley Petersen, Lassen Red Rock RM. ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Fox Peak Cultural

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		either side of centerline; see <i>National Historic Trails</i>)	<ul style="list-style-type: none"> ○ Crest RMZ ○ Salt Wells • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Black Mountain/Pistone Archaeological District ○ Dixie Valley Toad ○ Fox Peak Cultural ○ Incandescent Rocks Scenic ○ Lassen Red Rock Scenic ○ Namazii Wunu Cultural ○ Stewart Valley Paleontological ○ Tagim aša Cultural ○ Virginia City National Landmark Historic District • National Historic Trails (2.5-mile buffer on either side of centerline; see <i>National Historic Trails</i>) • Suitable Wild and Scenic River (WSR) segments (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>): <ul style="list-style-type: none"> ○ East Fork Carson 	<ul style="list-style-type: none"> Trails (0.25-mile buffer on either side of centerline; see <i>National Historic Trails</i>) • East Fork Carson River Segment 3 (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) 	<ul style="list-style-type: none"> ○ Incandescent Rocks Scenic ○ Stewart Valley Paleontological • National Historic Trails (1-mile buffer on either side of centerline; see <i>National Historic Trails</i>) • Suitable WSR segments (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>): <ul style="list-style-type: none"> ○ East Fork Carson River Segment 2 ○ East Fork Carson River Segment 3 • Lands proposed for protection of wilderness characteristics

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			River Segment 2 ○ East Fork Carson River Segment 3		
265.	Action: Manage 320,600 acres according to VRM Class III objectives, including the following areas: <ul style="list-style-type: none"> • Bagley Valley • Carson City • Flowery Ridge • Fort Sage • Highway 395 South • Huffaker Hills • Long Valley • Lower Carson River • Markleeville • Orlean Hills • Pah Rah North • Palomino Valley • Pine Nut Mountains Crest • Prison Hill • Rawe Peak • Red Rock Road • Spanish Springs Valley • Truckee River • Winnemucca Ranch Valley • Virginia City • Virginia Mountains 	Action: Manage 1,379,400 acres according to VRM Class III objectives, including the following areas: <ul style="list-style-type: none"> • SRMAs (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Alpine <ul style="list-style-type: none"> ▪ East Fork Carson River RMZ ▪ Indian Creek Campground RMZ ○ Walker Lake • ERMAs (<i>see Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ 102 Ranch ○ Mustang ○ Portion of Middlegate ○ Portion of Mina Pah Rah ○ Pine Nut <ul style="list-style-type: none"> ▪ Front Country RMZ ▪ Pine Nut Crest RMZ 	Action: Manage 213,400 acres according to VRM Class III objectives, including the following areas: <ul style="list-style-type: none"> • Alpine SRMA, Indian Creek Campground RMZ (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>) • ERMAs (<i>see Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Dry Valley ○ Mustang ○ Portion of Middlegate ○ Pah Rah ○ Pine Nut, Front Country RMZ ○ Singatse ○ Virginia Mountains ○ Virginia Range • Ruhenstroth Paleontological ACEC (<i>see Special Designations, Areas of Critical Environmental Concern</i>) 	Action: Manage 185,900 acres according to VRM Class III objectives, including the following areas: <ul style="list-style-type: none"> • SRMAs (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Alpine, Portion of Indian Creek Campground RMZ ○ Dead Camel Mountains • ERMAs (<i>see Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ 102 Ranch ○ Faye-Luther ○ Mustang ○ Pah Rah ○ Pine Nut <ul style="list-style-type: none"> ▪ Front Country RMZ ▪ Pine Nut Crest RMZ • ACECs (<i>see Special Designations, Areas of</i> 	Action: Manage 1,383,900 acres according to VRM Class III objectives, including the following areas: <ul style="list-style-type: none"> • Virginia City National Historic Landmark District (<i>see Cultural Resources</i>). • SRMAs (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Alpine, Portion of Indian Creek Campground RMZ ○ Sand Mountain ○ Walker Lake • West Side of Virginia Range ERMAs (<i>see Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ 102 Ranch ○ Dry Valley ○ Faye-Luther ○ Mustang ○ Middlegate ○ Mina ○ Pah Rah ○ Portion of Petersen (200 acres)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Black Mountain/Pistone Archaeological District ○ Namazii Wunu Cultural ○ Ruhenstroth Paleontological ○ Tagim aša Cultural 		<p><i>Critical Environmental Concern</i>):</p> <ul style="list-style-type: none"> ○ Black Mountain/Pistone Archaeological District ○ Ruhenstroth Paleontological ○ Tagim aša Cultural ○ Virginia City National Landmark Historic District • East Fork Carson River Segment 2 (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) 	<ul style="list-style-type: none"> ○ Pine Nut <ul style="list-style-type: none"> ▪ Front Country RMZ ▪ Pine Nut Crest RMZ ○ Salt Wells ○ Virginia Mountains • Ruhenstroth Paleontological ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>)
266.	<p>Action: Manage 385,700 acres according to VRM Class IV objectives, including the following areas:</p> <ul style="list-style-type: none"> • Common hills and valleys north of Reno • Urban and congested lands around Reno • Pah Rah South. 	<p>Action: Manage 2,803,000 acres according to VRM Class IV objectives, including the following areas:</p> <ul style="list-style-type: none"> • SRMAs (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Dead Camel Mountains ○ Hungry Valley ○ Sand Mountain • West side of Virginia 	<p>Action: Manage 2,874,100 acres according to VRM Class IV objectives, including the following areas:</p> <ul style="list-style-type: none"> • ERMAs (<i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Pine Nut, Rural RMZ 	<p>Action: Manage 3,986,900 acres according to VRM Class IV objectives, including the following areas:</p> <ul style="list-style-type: none"> • ERMAs (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Pine Nut, Rural RMZ ○ Reno Urban Interface 	<p>Action: Manage 2,341,700 acres according to VRM Class IV objectives, including the following areas:</p> <ul style="list-style-type: none"> • SRMAs (<i>Recreation and Visitor Services, Special Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Dead Camel South RMZ • ERMAs (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>):

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Range <ul style="list-style-type: none"> • ERMA's (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> ○ Portion of Mina (824,670 acres) ○ Pine Nut, Rural RMZ ○ Reno Urban Interface ○ Salt Wells • Virginia City National Landmark Historic District ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) 			<ul style="list-style-type: none"> ○ Pine Nut, Rural RMZ ○ Reno Urban Interface ○ Singatse
267.	Action: Prohibit commercial sales in the VRM Class II area (Indian Creek Recreation Lands) that is highly visible from recreation developments unless needed for disease or hazard reduction.	Action: No similar action.			
268.	Action: Limit logging in the East Fork of the Carson River Canyon to VRM Class II recommendations. Allow logging if the visual quality of the canyon will be maintained. Allow salvage logging if the Watashema	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Dam is constructed.				
269.	Action: The Field Office Manager may allow temporary projects to exceed VRM standards if the project will terminate within 2 years of initiation and be in compliance with VRM objectives immediately upon removal and initial rehabilitation efforts.	Action: No similar action.			
270.	Objective: Protect and enhance the visual qualities of areas with outstanding scenic values.	Objective: No similar objective.			
271.	Action: Manage the Burbank Canyons as a Scenic Area as with motor vehicles to limited to designated roads.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas – Pine Nut ERMA</i>).			
272.	Action: Manage the East Fork of the Carson River as a Scenic Area and develop specific management directives.	Action: No similar action (see <i>Recreation and Visitor Services, Special Recreation Management Areas – Alpine SRMA</i>).			
273.	Action: Manage the Red Rocks Area as a Scenic Area. <ul style="list-style-type: none"> Manage the area under an agreement with mining claimants to protect the geologic features. Develop a day use 	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas – Petersen ERMA</i>).	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas – Petersen ERMA</i>).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	picnic area, with 2-wheel vehicle access and interpretation of geologic features in the Red Rocks Scenic Area. <ul style="list-style-type: none"> • Restrict OHV use to designated roads and trails. • Ensure Mining Plans of Operations within the Red Rocks Scenic Area would protect the area's scenic quality and not impair recreation use. 				
274.	Lands with Wilderness Characteristics				
275.	GOAL: Areas to be managed to protect wilderness characteristics should retain a high degree of naturalness where the imprint of humans on lands and resources is substantially unnoticeable. Furthermore, outstanding opportunities for solitude and primitive or unconfined types of recreation should be maintained or enhanced.				
276.	Objective: No similar objective.		Objective: Manage lands to protect wilderness characteristics to maintain a high degree of naturalness and offer outstanding opportunities for solitude or primitive, unconfined recreation by reducing impacts to these values while considering manageability and competing resource demands.	Objective: No similar objective.	Objective: Same as Alternative C.
277.	Action: No similar action.		Action: Manage 416,500 acres to protect wilderness characteristics (Figure 2-19): <ul style="list-style-type: none"> • Agai Pah Hills (27,200 	Action: No similar action.	Action: Manage 332,600 acres to protect wilderness characteristics (Figure 2-20): <ul style="list-style-type: none"> • Agai Pah Hills (27,200

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			acres) <ul style="list-style-type: none"> • Chukar Ridge (29,100 acres) • Excelsior North (54,400 acres) • Excelsior South (49,200 acres) • Finger Rock (41,500 acres) • Job South (77,400 acres) • Lyon Peak (16,300 acres) • Monte Cristo North (9,800 acres) • Peterson Mountain (16,300 acres) • Rawe Peak (39,800 acres) • Stillwater Additions (19,100 acres) • Tule Peak (36,400 acres) Management actions include: <ul style="list-style-type: none"> • Manage as VRM Class I. • Close to mineral material disposal. • Close to nonenergy mineral leasing. • Close to fluid mineral leasing. • Vegetative permitting would not be authorized. • Prohibit new or expanded range improvements. • Vegetative treatments would be allowed if 		acres) <ul style="list-style-type: none"> • Chukar Ridge (29,100 acres) • Excelsior North (54,400 acres) • Excelsior South (49,200 acres) • Job South (77,400 acres) • Rawe Peak (39,800 acres) • Stillwater Additions (19,100 acres) • Tule Peak (36,400 acres) Management actions include: <ul style="list-style-type: none"> • Manage as VRM Class II. • Close to nonenergy mineral leasing. • Apply NSO stipulation to fluid mineral leasing. • Vegetative permitting would not be authorized. • Vegetative treatments would be allowed if project objectives maintained or enhanced wilderness characteristics. • Manage as ROW avoidance area: <ul style="list-style-type: none"> ○ Any potential new ROWs, and maintenance of existing facilities, will be evaluated and

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>project objectives maintained or enhanced wilderness characteristics and could meet VRM Class I objectives within 5 years.</p> <ul style="list-style-type: none"> • Manage as ROW avoidance area: <ul style="list-style-type: none"> ○ Any potential new ROWs, and maintenance of existing facilities, will be evaluated and allowed under the following circumstances. All evaluations will analyze alternatives outside the unit: <ul style="list-style-type: none"> ▪ When needed to protect, manage, or improve natural or heritage resource conditions and when compatible with maintaining or enhancing wilderness characteristics ▪ When meeting law enforcement, agency, or public safety needs 		<p>allowed under the following circumstances:</p> <ul style="list-style-type: none"> ▪ When compatible with maintaining or enhancing wilderness characteristics or when needed to protect, manage, or improve natural or heritage resource conditions ▪ When meeting law enforcement, agency, or public safety needs • Sites and locales with human-caused disturbances will be rehabilitated if such actions maintain or enhance wilderness characteristics and natural/heritage resources, if they are practicable, if they meet management prescriptions and standard operating procedures, and if they

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Manage as ROW exclusion for wind energy projects (see <i>Renewable Energy (Wind, Solar, Biomass)</i> section). • Sites and locales with human-caused disturbances will be rehabilitated if such actions maintain or enhance wilderness characteristics and natural/heritage resources, if they are practicable, if they meet management prescriptions and standard operating procedures, and if they are addressed in a restoration plan. • Prohibit competitive motorized events. 		<p>are addressed in a restoration plan.</p> <ul style="list-style-type: none"> • Special recreation permits will be allowed when consistent with protecting wilderness characteristics and VRM classes. • Decrease the visual effect of existing facilities during reconstruction, replacement, or major maintenance.
278.	Caves and Cave Resources				
279.	GOAL: Protect significant cave and cave-related resources, including unique geological features, biological resources, and cultural properties, for educational, scientific, and recreational values.				
280.	Actions common to all: <ul style="list-style-type: none"> • Identify caves meeting one or more criteria in accordance with 43 CFR Part 37 and designate them as significant. Maintain a current list of designated significant caves. <ul style="list-style-type: none"> ○ Culturally significant caves will be managed according to all federal and state laws and regulations. ○ The location of significant caves will be kept confidential unless otherwise identified in management plans for research or educational purposes. ○ Law enforcement personnel will patrol specific cave sites identified as high potential for or known to have significant cultural values to prevent or deter vandalism or theft. ○ Mitigation measures such as increased patrols, monitoring, fencing, gating and signing will be implemented upon occurrences of vandalism, looting or destruction of significant cave resources. 				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Caves with no previous bat inventories will be evaluated for their potential value as bat habitat in coordination with federal and state wildlife agencies. <ul style="list-style-type: none"> Caves with identified bat resources will be assessed and prioritized for public closure to protect bat habitat, minimize potential impacts on roosting bats, and to prevent the spread of disease (such as White-nose syndrome). Protect bats and habitat by implementing mitigation measures (see <i>Wildlife and Fish, Bats</i>). Closure orders for caves with bat or cultural resources will provide exemptions for persons conducting surveys and research or for tribal interests. Pursue partnership and volunteer site steward involvement for site monitoring and protection. Promote visitor awareness of the potential risks in cave environments. Designate the following caves as having cultural, biological, educational, or scientific significance: Hidden Cave, Burnt Cave, Cowboy Cave, Fish Cave, Eastgate Shelter, Picnic Cave, Salt Cave, Spirit Cave, Dynamite Cave, Topia Cave, and other caves as identified. 				
281.	Objective: Continue present management actions as based on current LUP decisions, policy, and regulations.	Objective: Provide for special management attention to protect and prevent irreparable damage to significant cave resources in a manner that emphasizes resource use and economic development.	Objective: Provide for special management attention to protect and prevent irreparable damage to significant cave resources in a manner that preserves and protects the identified resources above other management considerations.	Objective: Provide for special management attention to protect and prevent irreparable damage to significant cave resources in a manner that provides for management of multiple resource use and user conflicts in areas of higher population density near the urban interface.	Objective: Provide for special management attention to protect and prevent irreparable damage to significant cave resources in a manner that balances resource protection with multiple use management decisions.
282.	Action: No similar action.	Action: <ul style="list-style-type: none"> Provide for BLM staff or site steward monitoring of caves identified as culturally significant that are heavily utilized by the public such as Grimes Point Archeological District. 	Action: <ul style="list-style-type: none"> Include culturally significant caves in the fuels-treatment programs to protect sensitive attributes that may be impacted by a high-fuels load. Provide for BLM staff, law enforcement, or 	Action: <ul style="list-style-type: none"> Install gates, security fencing, and signage at the entrance of caves near urban or developed areas to protect human health and safety. Include culturally significant caves in 	Action: <ul style="list-style-type: none"> Include culturally significant caves in the fuels-treatment programs to protect sensitive attributes that may be impacted by a high-fuels load. Provide for BLM staff, law enforcement, or

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> Develop public education and outreach programs develop an appreciation and understanding of caves, as well as cultural and biological cave resources. Seek cooperative agreements for formal biological, archeological, and historical field schools. 	<p>volunteer site stewards to monitor caves identified as culturally significant that are heavily utilized by the public.</p> <ul style="list-style-type: none"> Develop public education and outreach programs develop an appreciation and understanding of caves, as well as cultural and biological cave resources. 	<p>the fuels-treatment programs to protect sensitive attributes that may be impacted by a high-fuels load.</p> <ul style="list-style-type: none"> Provide for BLM staff, law enforcement, or volunteer site stewards to monitor caves identified as culturally significant that are heavily utilized by the public. Develop public education and outreach programs develop an appreciation and understanding of caves, as well as cultural and biological cave resources. 	<p>volunteer site stewards to monitor caves identified as culturally significant that are heavily utilized by the public.</p> <ul style="list-style-type: none"> Develop public education and outreach programs designed to increase public appreciation and understanding of caves, as well as cultural and biological cave resources through public interpretation, such as signs, brochures, online interpretations or virtual tours, and links via smart phone QR code trail markers, and site stewardship. Seek cooperative agreements for formal biological, archeological, and historical field schools, while not identifying sensitive sites or promoting increased visitation.
283.	Dynamite Cave (see <i>Special Designations, Areas of Critical Environmental Concern - Fox Peak Cultural ACEC</i>)				
284.	Objective: No similar objective.	Objective: Manage Dynamite Cave as having cultural significance resources to protect and prevent irreparable damage to significant cave	Objective: Manage Dynamite Cave as having biological significance for bat habitat and cultural resources over other resource uses in a manner	Objective: Manage Dynamite Cave as having cultural significance in a manner that provides for consideration of multiple resource use	Objective: Manage Dynamite Cave as having bat and cultural significance resources in a manner that balances resource protection with multiple use

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		resources in a manner that emphasizes resource use and economic development.	that preserves and protects the identified resources above other management considerations.	and user conflicts in areas of higher population density near the urban interface.	management decisions.
285.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Manage as a ROW avoidance area within 0.25 mile of the cave. • Close to mineral materials disposals. • Apply a CSU stipulation for fluid mineral leasing within 500 feet of the cave. 	Action: <ul style="list-style-type: none"> • Manage as a ROW exclusion area within 0.5 mile of the cave. • Close to mineral materials disposals. • Close to fluid mineral leasing. • Recommend for withdrawal from locatable mineral entry. • Close to motorized travel within 500 feet of cave. 	Action: Same as Alternative B.	Action: Same as Alternative C.
286.	Hidden Cave (see <i>Special Designations, Areas of Critical Environmental Concern – Grimes Point Archaeological District ACEC</i>)				
287.	Objective: No similar objective.	Objective: Manage Hidden Cave as having culturally significant resources to protect and prevent irreparable damage to significant cave resources in a manner that emphasizes resource use and economic development.	Objective: Manage Hidden Cave as having cultural significance over other resource uses in a manner that preserves and protects the identified resources above other management considerations.	Objective: Same as Alternative B.	Objective: Manage Hidden Cave as having culturally significant resources in a manner that balances resource protection with multiple use management decisions.
288.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Manage as a ROW avoidance area within 500 feet of the cave. • Close to mineral materials disposals. 	Action: <ul style="list-style-type: none"> • Manage as a ROW exclusion area within 500 feet of the cave. • Close to mineral materials disposals. 	Action: Same as Alternative B.	Action: <ul style="list-style-type: none"> • Increase public education and interpretation, archaeological investigation, and reinvestigation.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Apply a CSU stipulation for fluid mineral leasing within 500 feet of the cave. 	<ul style="list-style-type: none"> • Close to fluid mineral leasing. • Recommend for withdrawal from locatable mineral entry. • Close to motorized travel within 500 feet of cave. 		<ul style="list-style-type: none"> • Manage as a ROW exclusion area within 500 feet of the cave. • Close to mineral materials disposals. • Close to fluid mineral leasing. • Recommend for withdrawal from locatable mineral entry. • Close to motorized travel within 500 feet of cave.
289.	RESOURCE USES				
290.	Forest and Woodland Products (includes all vegetative products)				
291.	GOAL: Provide opportunities for traditional and nontraditional uses of forest and woodland products on a sustainable and multiple use basis.				
292.	Objective: Base forest and woodland management on the principles of multiple use, sustained yield, and ecosystem management.				
293.	Action: Sell green pinyon and juniper for fuel wood and fence posts, for personal use, at the rate of up to 5,000 cords and 1,000 posts annually. These sales would take place only in areas where there would be no conflicts, or in areas where the conflicts could be mitigated.	Action: Issue vegetative product permits for personal use commensurate with public demands and resource management objectives. Any collection intended for resale would require a commercial permit.			
294.	Action: The sale of dead standing and down fuelwoods, for personal use, with the exception of standing cottonwood or	Action: Prohibit the harvest of live or dead/down cottonwood or aspen trees on personal-use firewood permits.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	aspen will continue in the Reno area outside of deer migration corridors and identified critical watersheds. Any sales within identified high erosion areas must not reduce ground cover more than 50 percent.				
295.	Action: Allow pinyon pine nuts harvest throughout the Field Office area of jurisdiction. The first 25 pounds are free and do not require a permit. After the initial 25 pounds the harvester is considered a commercial user and will be required to get a permit and pay fair market value. Commercial use is subject to Field Office Manager approval. Pinyon pine nuts after the initial 25 pounds the harvester is considered a commercial user and will be required to get a permit and pay fair market value. Commercial use is subject to Field Office Manager approval.	Action: <ul style="list-style-type: none"> • Allow up to 25 pounds of pinyon pine nuts per individual per year without obtaining a permit. • Require a commercial permit if pinyon pine nuts are collected for resale. 	Action: <ul style="list-style-type: none"> • Allow up to 10 pounds of pinyon pine nuts per individual per year without obtaining a permit. • No commercial collection would be permitted within the planning area. 	Action: <ul style="list-style-type: none"> • Allow up to 10 pounds of pinyon pine nuts per individual per year without obtaining a permit. • Prohibit commercial collection within the Pine Nut, Virginia, and Stillwater Mountain Ranges and in Alpine County. • Require a commercial permit for any amount collected for resale in the rest of the district. 	Action: Same as Alternative C.
296.	Action: Commercial sales will not be allowed in the VRM Class II area (Indian Creek Recreation Lands)	Action: No similar action (see <i>Recreation and Visitor Services, Special Recreation Management Areas -Alpine SRMA</i>).			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	that is highly visible from recreation developments unless needed to reduce disease or hazard.				
297.	Action: No similar action.	Action: Allow extraction and utilization of vegetative products in order to supply material for biomass facilities.	Action: No similar action.	Action: Develop a utilization plan that specifies levels for the wood/vegetation by-products produced by treatments.	Action: Allow extraction of wood products for small scale biomass facilities (less than 3 megawatts per facility).
298.	Livestock Grazing				
299.	GOAL: Provide for economically sustainable and ecologically sound livestock grazing.				
300.	Objective: Provide adequate, high-quality forage for livestock by improving rangeland condition on 111 allotments (4,796,600 acres Figure 2-21).	Objective: Manage adequate high-quality forage for livestock by improving the rangeland condition and focusing on the introduction and addition of palatable species.	Objective: Improve rangeland condition so that functioning ecosystems would be the priority, regardless of the forage base they provide.	Objective: Improve rangeland condition to ensure properly functioning ecosystems and to provide a high quality sustainable forage base.	Objective: Maintain or improve the condition of the public rangelands so ecological functions that sustainably provide for forage and other uses are met.
301.	Actions common to all: <ul style="list-style-type: none"> • Comply with the Approved Standards and Guidelines for livestock grazing, and manage all allotments toward meeting Rangeland Health Standards. • Include terms, conditions, and direction to move toward or maintain Greater Sage-Grouse desired habitat conditions on grazing permits and other appropriate mechanisms for livestock management. • Rest areas burned by wild or prescribed fire from livestock grazing for a minimum of 2 growing seasons (with the exception of prescriptive grazing being outlined in the recovery plan and used only in the prescribed manner). • Livestock salting would not be allowed within 0.25 mile of springs, meadows, cultural properties eligible for the NRHP, streams, or aspen areas. • Construct all new fences to comply with applicable wildlife standards. • Promote removal of all retired grazing allotment infrastructure consistent with management objectives for other resource programs. • Manage livestock grazing on the open withdrawn lands at B19 and the Shoal Site in a manner consistent with adjacent BLM-administered lands. • Grazing management as stated would not preclude voluntary retirement of any grazing allotments. 				
302.	Action: No similar action.	Action: Livestock grazing would not be available	Action: Livestock grazing would not be available	Action: Livestock grazing would not be	Action: Livestock grazing would not be available

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		where management changes have been implemented and the allotments are still decreasing in ecological function due to livestock. Vacant allotments could be offered for application to a new permittee.	whenever they become vacant.	available where management changes have been implemented and the allotment is still decreasing in ecological function due to livestock or is incompatible with urban uses. Vacant allotments will be assessed for suitability as forage banks with an emphasis in the urban interface.	where management changes have been implemented and the allotment is still decreasing in ecological function or failing to reach other defined objectives due to livestock. Modify allotment boundaries to address incompatible urban uses. When allotments are vacant, they will be assessed for suitability as forage banks.
303.	Action: No similar action.	Action: Restore areas disturbed by range improvements that have been removed using methods such as seeding if needed.			
304.	Action: No similar action.	Action: All allotments that overlap the Pine Nut HMA would be available for grazing. Vacant allotments should be considered for forage banks.	Action: Allotments in the Pine Nut HMA that become vacant would not be available for grazing.		Action: Same as Alternative B.
305.	Action: The Black Canyon Road will not be used for public access.	Action: No similar action.			
306.	Action: No similar action.	Action: Utilize prescriptive grazing for vegetative management purposes as necessary for vegetative manipulation by authorizing livestock grazing through management agreements, temporary nonrenewable grazing permits or leases, or special-use permits.	Action: Prohibit prescriptive grazing for vegetative management purposes.	Action: Utilize prescriptive grazing for vegetative management purposes only within the urban interface area.	Action: Same as Alternative B.

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Allow use of protein supplements only when the use has been analyzed and is appropriate for assisting in the attainment of clearly defined vegetative goals/objectives. Protein supplementation would not be allowed under a grazing permit authorized under Sections 3 or 15 of the Taylor Grazing Act.			
307.	Action: The Faye Canyon, Spratt Creek, and Hangman allotments are areas set aside for wildlife use.	Action: The Hangman allotment would be available for grazing and offer for application to a new permittee (470 acres; Figure 2-22).	Action: The Hangman allotment would not be available for grazing (470 acres; Figure 2-23).	Action: Hangman allotment would be available for grazing but closed for preference-based grazing permits while authorizing nonrenewable grazing use (forage bank).	
308.	Action: No similar action.	Action: Winter's Ranch would be established as an allotment available for grazing (1,000 acres; Figure 2-22).	Action: Winter's Ranch would be established as an allotment and would not be available for grazing (1,000 acres; Figure 2-23).	Action: Winter's Ranch would be established as an allotment and would be available for grazing but closed for preference-based grazing permits while authorizing nonrenewable grazing use when needed to meet overall resource goal.	
309.	Action: No similar action.	Action: Livestock grazing on Reclamation relinquished lands would be managed under BLM grazing regulations.	Action: Livestock grazing on Reclamation relinquished lands would not be available for livestock grazing.	Action: Same as Alternative B.	
310.	Action: Manage livestock use at existing levels.		Action: Reduce allowable utilization levels to no more than 40 percent of the key species at a periodic review of the grazing permit for allotments not meeting	Action: Manage at existing levels, with utilization on key species not to exceed 60 percent if not otherwise specified, and re-examine and adjust use levels to appropriate AUM amount every 10 years or on a case-by-case basis (whichever is less) during a periodic review of the grazing permit if objectives are not being met.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			Rangeland Health Standards due to current livestock grazing. Reduce AUMs to meet that utilization level based on monitoring. If the reduced utilization level does not provide for ecological improvement prior to the next permit renewal, further reductions would be made based on monitoring.		
311.	Action: Sheep grazing will continue to be permitted on the Bagley Valley Allotment.	Action: No similar action.			
312.	Action: No similar action.	Action: Consider conversion from sheep to cattle grazing permits even if it is not consistent with bighorn sheep management objectives.	Action: Cattle permits could be converted to sheep/goat permits where forage and terrain favors that use as long as it is consistent with bighorn sheep management objectives (see <i>Fish and Wildlife</i>).	Action: If requested by permittee, examine converting permitted livestock kind. Where urban interface exists, and cattle cannot be kept in the allotment, consider converting the allotment to sheep/goats as long as it is consistent with bighorn sheep management objectives (see <i>Fish and Wildlife</i>).	
313.	Action: Lahontan Resource Area- Initially, authorize livestock use at the 3-year average use level of 158,720 AUMs. There would be no initial decisions to adjust active preference.	Action: No similar action.			
314.	Action: Walker Resource Area -Initially authorize livestock use at the 3-year average licensed use level	Action: No similar action.			

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	of 36,962 AUMs. There would be no initial change in active preference.				
315.	Action: Pine Nut-Markleeville Planning Units-Initially authorize livestock's use at the 3-year average licensed use level of 11,536 AUMs. There would be no initial change in active preference	Action: No similar action.			
316.	Action: Initiate land exchanges with the Southern Pacific Railroad and the private owners in the Spanish Springs to block up BLM-administered lands in the White Hills and Olinghouse allotments.	Action: No similar action.			
317.	Action: 4,796,600 acres would continue to be available for livestock grazing (Figure 2-21).	Action: 4,797,200 acres would be available for livestock grazing (Figure 2-22).	Action: 2,101,300 acres would be available for livestock grazing (Figure 2-23).	Action: 4,792,600 acres would be available for livestock grazing (Figure 2-24).	Action: 4,797,200 acres would be available for livestock grazing (Figure 2-22).
318.	Action: 6,700 acres would continue to be unavailable for livestock grazing (; Figure 2-21).	Action: The following areas would not be available for livestock grazing (6,100 acres; Figure 2-22): <ul style="list-style-type: none"> Carson wandering skipper habitat near Winnemucca Ranch Road (see <i>Special Status Species, Fish and</i> 	Action: The following areas would not be available for livestock grazing (2,702,000 acres; Figure-2-23): <ul style="list-style-type: none"> Allotments containing Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) Central 	Action: The following areas would not be available for livestock grazing (10,700 acres; Figure-2-24): <ul style="list-style-type: none"> Harvey Flat. Indian Creek (portion on BLM-administered land in California) 	Action: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<i>Wildlife</i>) <ul style="list-style-type: none"> • Milberry Canyon • Harvey Flat 	<ul style="list-style-type: none"> • Churchill Butte • Hangman allotment • Harvey Flat • Horse Spring • Indian Creek (portion on BLM-administered land in Nevada and California) • Koch Ditch • Milberry Canyon • Red Rock • Stockton Flat • Truckee-Virginia • Wade Valley • Wedekind • Winter's Ranch • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Black Mountain/Pistone Archaeological District ○ Carson wandering skipper ○ Dixie Valley Toad ○ Portion of Grimes Point Archaeological District (2,100 acres) ○ Namazii Wunu Cultural ○ Pah Rah High Basin Petroglyph ○ Ruhenstroth 	<ul style="list-style-type: none"> • Carson wandering skipper habitat near Winnemucca Ranch Road (see <i>Special Status Species, Fish and Wildlife</i>) • Pah Rah High Basin Petroglyph ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) 	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> ○ Paleontological ○ Tagim aša Cultural ○ Virginia City National Landmark Historic District 		
319.	Action: No similar action	Action: No similar action.	Action: Temporarily close all allotments to livestock grazing during emergency situations (e.g., drought, insect, or fire) to protect rangeland health.	Action: Temporarily close allotments on a case by case basis during emergency situations as is deemed necessary for protection of rangeland health.	
320.	Action: No similar action.	Action: Year-long grazing would not be allowed in any pasture of an allotment.	Action: Year-long grazing would not be allowed in any allotment.	Action: Same as Alternative B.	Action: Allow year-long grazing only where allotments already have year-long systems and are meeting land health standards.
321.	Action: No similar action.	Action: Utilization levels in excess of the permitted levels over 10 percent of the allotment would require a 10 percent reduction in the AUMs allowed the following grazing season. The percentages would correspond, with the maximum repercussion being that 100 percent overutilization = 100 percent reduction (or rest). Rest and re-evaluation of the stocking rate would be required if reductions do not create proper utilization.	Action: Utilization levels in excess of permitted levels would require rest during the following grazing year.	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
322.	Geology and Minerals				
323.	GOAL: Provide opportunities for exploration and development of federal mineral resources to meet national, regional and local needs while ensuring the long-term health and diversity of the land.				
324.	Actions common to all: <ul style="list-style-type: none"> • Administer exploration and disposal of mineral materials through exploration permits, free-use permits, and competitive and noncompetitive sales subject to appropriate restrictions and stipulations to protect other resources. • Issue mineral-use authorizations for nonenergy leasables for prospecting permits, exploration licenses, preference-right leases, competitive leases, lease modifications, and use permits subject to appropriate restrictions and stipulations to protect other resources. • Maintain the integrity of important noneconomic geologic resources consistent with other land use objectives. 				
325.	General Minerals				
326.	Objective: No similar objective.	Objective: Lands disturbed by mineral operations would remain in a condition that provides for continued economic use at the site.	Objective: Restore lands disturbed by mineral operations to approximate preoperational topography (when feasible) and vegetation as allowed under the regulations. If the regulated activity occurred on land impacted by previous human-caused disturbance, restore that land to a stable natural-appearing form and native vegetative community.	Objective: Restore lands disturbed by mineral operations to approximate preoperational topography (when feasible) and vegetation as allowed under the regulations. If the regulated activity occurred on land impacted by previous human-caused disturbance, restore that land to a stable natural-appearing form and native vegetative community. An exception, in whole or in part, may be granted if, at the time of closure, a viable plan exists for a productive community-based use of	Objective: Restore lands disturbed by mineral operations to approximate preoperational (when feasible) topography and vegetation as allowed under the regulations. If the regulated activity occurred on land impacted by previous human-caused disturbance, restore that land to a stable natural-appearing form and native vegetative community. An exception, in whole or in part, may be granted if, at the time of closure, a viable plan exists for continued productive economic or community-based use at the site.

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				the site.	
327.	Action: No similar action.	Action: Rehabilitate or reclaim mineral operations, including recontouring, stabilization, revegetation and removal of facilities before closing the case file. Per BLM and State regulations, locatable mineral pits are not required to be restored to preoperational topography (backfilled). Existing guidance and standards for reclamation and closure could be deferred, if allowed under existing regulations and agreed to by the proponent and the BLM, for up to 5 years from the end of active mining of sites that have a reasonable prospect for economic use.	Action: Rehabilitate or reclaim mineral operations, including recontouring, stabilization, revegetation and removal of facilities before closing the case file to restore preoperational topography and establish a historically native vegetation community to the maximum extent possible. Per BLM and State regulations, locatable mineral pits are not required to be restored to preoperational topography (backfilled).	Action: Rehabilitate or reclaim mineral operations, including recontouring, stabilization, revegetation and removal of facilities before closing the case file. Address post-operational use and site reclamation configuration in all relevant proposals for mineral operations and site development. Per BLM and State regulations, locatable mineral pits are not required to be restored to preoperational topography (backfilled).	
328.	Action: No similar action	Action: Revegetation should result in self-sustaining vegetation communities. A variety of seed mixtures (native and nonnative) may be used that are appropriate to the local ecological setting.	Action: Revegetate reclaimed areas, using a variety of native seed mixtures appropriate to a local ecological setting. Priority for use would be locally collected native seed.	Action: Revegetate reclaimed areas, using a variety of native and nonnative seed mixtures appropriate to a local ecological setting. Priority for use of seeds and plant materials locally collected native seed, followed by nonlocally collected native seed, followed by nonnative.	
329.	Objective: Encourage development of energy and mineral resources in a timely manner to meet national, regional and local needs consistent with the objectives		Objective: Manage minerals activities to provide maximum protection for	Objective: Encourage development of energy and mineral resources in a timely manner to meet national, regional and local needs consistent with the objectives	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	for other BLM-administered land uses.		other resources while allowing sufficient mineral development to occur to meet public demand.	for other resources and uses. Develop mineral resources in the urban interface ahead of planned growth and in coordination with local governmental agencies.	
330.	Action: Within the Carson City Urban Interface Plan Amendment Area: <ul style="list-style-type: none"> Management of mineral materials in the CCD planning area would be determined through a joint aggregate resource plan to be developed with Carson City. 	Action: No similar action.			
331.	Action: Areas closed to mineral entry and energy development: <ol style="list-style-type: none"> Lands classified under the Classification and Multiple Use Act (approximately 8,000 acres of Sun Valley, Washoe Valley, Steamboat, and Peavine Mountain). Within the Walker Planning Area about 11,000 acres is either segregated against mineral entry under the Classification and Multiple Use Act or withdrawn from 	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>mineral by through formal withdrawal processes.</p> <p>3. The Carson City Urban Interface Plan Amendment states:</p> <ul style="list-style-type: none"> Withdraw 8,000 acres from operation of the locatable mining laws and close these lands to mineral exploration and leasing to protect open space and other BLM-administered land values. These are discretionary actions. <p>Areas where existing withdrawals and segregation from mineral entry will be maintained (approximately 20,000 acres):</p> <p>1. Key Watershed and Wildlife Areas</p> <ol style="list-style-type: none"> Alkali Lake Antelope Valley Pine Nut Mountains Topaz Lake 				

Table 2-2
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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	2. Major Recreation and Scenic Areas <ul style="list-style-type: none"> a. Wilson Canyon b. Walker Lake 3. Prison Hill				
332.	Locatable Minerals				
333.	Action: Areas closed to mineral entry (194,900 acres): <ul style="list-style-type: none"> • Indian Creek Recreation Area 2,100 acres • Carson City Urban Interface 18,000 acres • Southern Washoe (174,800 acres of BLM surface/federal mineral estate and 15,800 acres of split-estate, which is not currently included in the total) 	Action: Areas closed to mineral entry (194,900 acres). The locations remain the same as Alternative A, but the names have been updated and are outlined as follows: <ul style="list-style-type: none"> • A portion of Alpine SRMA that overlaps the former Indian Creek Recreation Area (2,100 acres; See <i>Recreation and Visitor Services, Alpine SRMA</i>) • Carson City Urban Interface 18,000 acres • A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) (174,800 acres of BLM-administered surface/federal mineral estate and 15,800 acres of split-estate, which is not currently included in the total) which 	Action: Areas closed to mineral entry (194,900 acres). The locations remain the same as Alternative A, but the names have been updated and are outlined as follows: <ul style="list-style-type: none"> • A portion of Alpine SRMA that overlaps the former Indian Creek Recreation Area (2,100 acres) • Carson City Urban Interface 18,000 acres • A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area (174,800 acres of BLM surface/federal mineral estate and 15,800 acres of split-estate, which is not currently included in the total)), including the following existing ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): 	Action: Same as Alternative B.	

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		includes the following existing ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Pah Rah High Basin Petroglyph ○ Virginia Range Williams Combleaf Botanical 	<ul style="list-style-type: none"> ○ Carson wandering skipper ○ Pah Rah High Basin Petroglyph ○ Virginia Range Williams Combleaf Botanical 		
334.	Action: Pursue withdrawal of locatable minerals from operation of the 1872 Mining Law (3,700 acres; Figure 2-25): <ul style="list-style-type: none"> • Grimes Point Archaeological District (400 acres) • Cold Springs Historic Area (200 acres) • Sand Mountain Recreation Area (2,800 acres) 	Action: Recommend the withdrawal of the following areas from locatable mineral entry (439,600 acres; Figure 2-26): <ul style="list-style-type: none"> • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ A portion of Stewart Valley Paleontological Marine Corps Mountain Warfare Training Center (900 acres) (Figure 2-25) • Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 	Action: Recommend the withdrawal of the following areas from locatable mineral entry (117,500 acres; Figure 2-27): <ul style="list-style-type: none"> • The Sand Springs Pony Express Station • Cold Springs Pony Express historical site • Rock Creek Stage and Telegraph Site (total of 120 acres) • ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Fox Peak Cultural ○ Greater Sand Mountain ○ Grimes Point Archaeological District ACEC ○ Pine Nut Mountain Williams Combleaf 	Action: Recommend the withdrawal of the following areas from locatable mineral entry (440,800 acres; Figure 2-28): <ul style="list-style-type: none"> • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ A portion of Lassen Red Rock Scenic (5 acres) ○ Pine Nut Mountains Williams Combleaf • East Fork Carson River WSR Study Segment I (see <i>Wild and Scenic Rivers</i>) • Incandescent Rocks Scenic ACEC 	Action: Recommend the withdrawal of the following areas from locatable mineral entry (727,100 acres; Figure 2-29): <ul style="list-style-type: none"> • The Sand Springs Pony Express Station • Cold Springs Pony Express historical site • Rock Creek Stage and Telegraph Site (total of 120 acres) • Wyemaha Archaeological District (see <i>Cultural Resources</i>) • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Churchill Narrows Buckwheat Botanical ○ Fox Peak Cultural ○ Grimes Point Archaeological

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> Botanical <ul style="list-style-type: none"> Sand Springs Desert Study Area A portion of Stewart Valley Paleontological Tagim aša Cultural Portions of Virginia Mountains Greater Sage-Grouse based on 3.25 miles from active leks (not mapped) 	<ul style="list-style-type: none"> Blue Link Spring, 11.6 acres Marine Corps Mountain Warfare Training Center (900 acres) (Figure 2-27) Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 	<ul style="list-style-type: none"> District <ul style="list-style-type: none"> Incandescent Rocks Scenic Ruhenstroth Paleontological Portion of Stewart Valley Paleontological East Fork Carson River WSR Study Segment I (see <i>Wild and Scenic Rivers</i>) Blue Link Spring (11.6 acres) Pistone Site (see <i>Cultural Resources</i>) Marine Corps Mountain Warfare Training Center (900 acres; Figure 2-29) Department of Defense Coordination Area (see <i>Public Health and Safety</i>)
335.	Fluid Minerals (Oil, Gas, and Geothermal)				
336.	Action: Areas closed to oil, gas, and geothermal Leasing (839,100 acres; Figure 2-30): <ul style="list-style-type: none"> Key Scenic, Wildlife, Recreation, and Historic Areas Walker Lake Indian Creek Virginia City Prison Hill 	Action: Manage the following areas as closed to fluid mineral leasing (768,500 acres; Figure 2-31): <ul style="list-style-type: none"> WSAs (see <i>Wilderness Study Areas</i>) Within 300-foot radius of a known human burial (see <i>Tribal Interests</i>) 	Action: Manage the following areas as closed to fluid mineral leasing (2,081,700 acres; Figure 2-32): <ul style="list-style-type: none"> Dynamite Caves (see <i>Caves and Cave Resources</i>) Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) 	Action: Manage the following areas as closed to fluid mineral leasing (737,000 acres; Figure 2-33): <ul style="list-style-type: none"> Virginia Range Williams Combleaf Botanical ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) 	Action: Manage the following areas as closed to fluid mineral leasing (1,007,200 acres; Figure 2-34): <ul style="list-style-type: none"> Dynamite Caves (see <i>Caves and Cave Resources</i>) Pistone site (see <i>Cultural Resources</i>) Wymaha Archaeological District (see <i>Cultural</i>)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Alkali Lake Sand Mountain 1,960 acres Carson City Urban Interface 17,892 acres Galena Creek Jumbo Reservoir Truckee River Carson River Jones Canyon Reservoir WSAs (see <i>Wilderness Study Areas</i> section) Southern Washoe County Urban Interface Planning area (all Washoe County except 1,933 acres in and adjacent to the Steamboat known Geothermal Resource Area) 	<ul style="list-style-type: none"> Playas: <ul style="list-style-type: none"> Edwards Creek Valley Bune Jugs Dixie Valley Flannigan Virginia Range Williams Combleaf Botanical ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) (except 1,933 acres in and adjacent to the Steamboat Known Geothermal Resource Area) 	<ul style="list-style-type: none"> ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Carson wandering skipper Churchill Narrows Buckwheat Botanical Clan Alpine Greater Sage-Grouse Desatoya Greater Sage-Grouse Grimes Point Archaeological District Incandescent Rocks Scenic Portion of Lassen Red Rock Scenic Namazii Wunu Cultural Pine Nut Bi-State Sage-Grouse Ruhenstroth Paleontological Stewart Valley Paleontological Virginia Mountains Greater Sage-Grouse Virginia Range Williams Combleaf Botanical National Historic Trail (NHT) corridors within a 2.5-mile buffer from 	<ul style="list-style-type: none"> WSAs (see <i>Wilderness Study Areas</i>) Within 0.25-mile radius of a known human burial (see <i>Tribal Interests</i>) A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) (except 1,933 acres in and adjacent to the Steamboat Known Geothermal Resource Area) 	<p>Resources)</p> <ul style="list-style-type: none"> ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Churchill Narrows Buckwheat Botanical Fox Peak Cultural Grimes Point Archaeological District Incandescent Rocks Scenic Pah Rah High Basin Petroglyph Ruhenstroth Paleontological Stewart Valley Paleontological High potential historic sites and high potential route segments along NHT corridors within a 1-mile buffer from either side or centerline (see <i>National Historic Trails</i>) Sand Mountain SRMA (see <i>Special Recreation Management Areas</i>) WSAs (see <i>Wilderness Study Areas</i>) Within 300-foot radius of a known human burial (see <i>Tribal Interests</i>) Playas:

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			either side of centerline (see <i>National Historic Trails</i>) <ul style="list-style-type: none"> • WSAs (see <i>Wilderness Study Areas</i>). • Within 1-mile radius of a known human burial (see <i>Tribal Interests</i>) • Playas: <ul style="list-style-type: none"> ○ Edwards Creek Valley ○ Bune Jugs ○ Dixie Valley ○ Flannigan • A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) (except 1,933 acres in and adjacent to the Steamboat Known Geothermal Resource Area) • Lands proposed for protection of wilderness characteristics 		<ul style="list-style-type: none"> ○ Edwards Creek Valley ○ Bune Jugs ○ Dixie Valley ○ Flannigan • A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) (except 1,933 acres in and adjacent to the Steamboat Known Geothermal Resource Area)
337.	Action: Areas where some restrictions apply to oil and gas leasing : <ol style="list-style-type: none"> NSO <ol style="list-style-type: none"> Within 500 feet of any water (Lahontan RMP Management Decisions 	Action: NSO for fluid mineral leasing in the following areas (404,600 acres; Figure 2-35): <ul style="list-style-type: none"> • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Stewart Valley 	Action: NSO for fluid mineral leasing in the following areas (1,039,200 acres; Figure 2-36): <ul style="list-style-type: none"> • Lands with slopes greater than 50 percent (see <i>Soils and Water Resources</i>) • Priority watersheds 	Action: NSO for fluid mineral leasing in the following areas (864,800 acres; Figure 2-37): <ul style="list-style-type: none"> • Pah Rah High Basin Petroglyph ACEC (see <i>Special Designations, Areas of Critical Environmental</i> 	Action: NSO for fluid mineral leasing in the following areas (1,151,600 acres; Figure 2-38): <ul style="list-style-type: none"> • Lands with slopes greater than 50 percent (see <i>Soils and Water Resources</i>) • Within 1,000-foot radius

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>Summary)</p> <p>b. Within 300 feet of any water (Walker RMP Management Decisions Summary)</p> <p>c. Cold Springs Pony Express Station (40 acres)</p> <p>d. Grimes Point Archaeological District (960 acres)</p> <p>2. Seasonal Restrictions on Activities:</p> <p>a. Spring Restrictions</p> <p>1. Six Sage Grouse Strutting Grounds 56,320 acres</p> <p>2. All Occupied Raptor Eyries</p> <p>b. March 1 to July 30 Restrictions</p> <p>1. Sage Grouse Habitat (85,300 acres)</p> <p>2. East Walker River Area</p> <p>3. Pine Nut Mountains</p> <p>c. February 1 to September 1 10,240 acres</p>	<p>Paleontological</p> <ul style="list-style-type: none"> ○ Grimes Point Archaeological District • Lands with slopes greater than 50 percent (see <i>Soils and Water Resources</i>) 	<p>containing municipal water supplies (see <i>Soils and Water Resources</i>)</p> <ul style="list-style-type: none"> • Within 500 feet of riparian/wetlands areas, 100-year flood plains and on or within 500 feet of playas (see <i>Vegetation-Riparian Wetlands</i>) • Within 500 feet of lentic and lotic habitats occupied by federally listed and BLM sensitive aquatic and semi-aquatic species (see <i>Fish and Wildlife</i>) • Important Bird Areas (see <i>Fish and Wildlife, Migratory Birds</i>) • Within 0.5 mile of active raptor nests (including special status species; see <i>Fish and Wildlife, Raptors</i>) • NRHP-listed properties and districts, national historic landmarks, and Traditional Cultural Properties listed or eligible for the NRHP (see <i>Cultural Resources</i>) • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Black 	<p>Concern)</p> <ul style="list-style-type: none"> • Lands with slopes greater than 50 percent (see <i>Soils and Water Resources</i>) • Within 1,000-foot radius of municipal well heads in priority watersheds (see <i>Soils and Water Resources</i>) • Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • East Fork Carson River Segment 1 (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) 	<p>of municipal well heads in priority watersheds (see <i>Soils and Water Resources</i>)</p> <ul style="list-style-type: none"> • Within 500 feet of riparian/wetlands areas, 100-year flood plains and on or within 500 feet of playas (see <i>Vegetation-Riparian Wetlands</i>) • Within 500 feet of lentic and lotic habitats occupied by federally listed and BLM sensitive aquatic and semi-aquatic species (see <i>Fish and Wildlife</i>) • Within 0.5 mile of active raptor nests (including special status species; see <i>Fish and Wildlife, Raptors</i>) • Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • National Register-listed properties and districts, National Historic Landmarks, and Traditional Cultural Properties listed or eligible for the NRHP (see <i>Cultural Resources</i>) • Virginia City National Historic Landmark District (see <i>Cultural</i>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	1. Prairie Falcon Habitat 2. Excelsior Mountains		Mountain/Pistone Archaeological District <ul style="list-style-type: none"> ○ Grimes Point Archeological District ○ Dixie Valley Toad ○ Pah Rah High Basin Petroglyph ○ Tagim aša Cultural ○ Virginia City National Landmark Historic District <ul style="list-style-type: none"> • East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) • Backcountry Wildlife Conservation Areas (see <i>Backcountry Wildlife Conservation Areas</i>) 		<i>Resources</i>) <ul style="list-style-type: none"> • East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) • Lands proposed for protection of wilderness characteristics
338.	Action: No similar action.	Action: CSU for fluid mineral leasing in the following areas (2,120,200 acres; Figure 2-39): <ul style="list-style-type: none"> • Within 500 feet of caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> ○ Dynamite Cave ○ Hidden Cave • Within 500 feet of lentic and lotic habitats occupied by federally listed aquatic and semi- 	Action: CSU for fluid mineral leasing in the following areas (1,242,800 acres; Figure 2-40): <ul style="list-style-type: none"> • Lands with slopes greater than 15 percent and less than 50 percent (see <i>Soils and Water Resources</i>) • Lands with a severe soil, wind or water erosion hazard rating (see <i>Soils and Water Resources</i>) 	Action: CSU for fluid mineral leasing in the following areas (2,071,400 acres; Figure 2-41): <ul style="list-style-type: none"> • Within 200 feet of riparian/wetland areas, 100-year flood plains and on or within 500 feet of playas (see <i>Fish and Wildlife</i>) • Within 500 feet of 	Action: CSU for fluid mineral leasing in the following areas (1,844,900 acres; Figure 2-42): <ul style="list-style-type: none"> • Lands with slopes greater than 15 percent and less than 50 percent (see <i>Soils and Water Resources</i>) • Lands with a severe soil, wind or water erosion hazard rating (see <i>Soils and Water Resources</i>) • Important Bird Areas

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		aquatic species (see <i>Fish and Wildlife</i>) <ul style="list-style-type: none"> • Lands with slopes greater than 15 percent and less than 50 percent (see <i>Soils and Water Resources</i>) • Lands with a severe soil, wind or water erosion hazard rating (see <i>Soils and Water Resources</i>) • Important Bird Areas (see <i>Fish and Wildlife, Migratory Birds</i>) • Within 0.25 mile of active raptor nests (including special status species; see <i>Fish and Wildlife, Raptors</i>) • Greater Sage-Grouse PPMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • NRHP-listed properties and districts, national historic landmarks, and Traditional Cultural Properties listed or eligible for the NRHP (see <i>Cultural Resources</i>) • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): 		lentic and lotic habitats occupied by federally listed aquatic and semi-aquatic species (see <i>Fish and Wildlife</i>) <ul style="list-style-type: none"> • Lands with slopes greater than 15 percent and less than 50 percent (see <i>Soils and Water Resources</i>) • Lands with a severe soil, wind or water erosion hazard rating (see <i>Soils and Water Resources</i>) • Important Bird Areas (see <i>Fish and Wildlife, Migratory Birds</i>) • Within 0.25 mile of active raptor nests (including special status species; see <i>Fish and Wildlife, Raptors</i>) • NRHP-listed properties and districts, national historic landmarks, and Traditional Cultural Properties listed or eligible for the NRHP (see <i>Cultural Resources</i>) • ACECs (see <i>Special</i> 	(see <i>Fish and Wildlife, Migratory Birds</i>)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District Namazii Wunu Cultural Tagim aša Cultural 		<i>Designations, Areas of Critical Environmental Concern):</i> <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District Tagim aša Cultural 	
339.	Action: No similar action.	Action: Timing limitations for fluid mineral leasing in the following areas: <ul style="list-style-type: none"> Within 0.6 mile of springs, meadows, and riparian corridors late brood-rearing habitat within Greater Sage-Grouse PPMA and PGMA from May 15 to August 15 (see <i>Special Status Species</i>, <i>Greater Sage-Grouse</i>) 	Action: Timing limitations for fluid mineral leasing in the following areas: <ul style="list-style-type: none"> Prohibit disturbance from land use authorizations and implement TL stipulations for fluid mineral leasing in the following areas (dependent on seasonal and site-specific conditions; see <i>Wildlife, Big Game Species</i>): <ul style="list-style-type: none"> Pronghorn kidding areas: May 15 – June 15 Mule deer fawning areas: June 1 – June 30 Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 Bighorn sheep 	Action: Timing limitations for fluid mineral leasing in the following areas: <ul style="list-style-type: none"> Within the urban interface zone, prohibit disturbance from land use authorizations and implement TL stipulations for fluid mineral leasing in the following areas (dependent on seasonal and site-specific conditions). Outside of the urban interface zone, apply appropriate Standard Operating Procedures and BMPs to mitigate disturbance from land use authorization activities in the 	Action: Timing limitations for fluid mineral leasing in the following areas: <ul style="list-style-type: none"> Prohibit disturbance from land use authorizations and implement TL stipulations for fluid mineral leasing in the following areas (dependent on seasonal and site-specific conditions) unless appropriate Standard Operating Procedures and BMPs are deemed sufficient by the BLM Authorized Officer (See <i>Wildlife, Big Game Species</i>): <ul style="list-style-type: none"> Pronghorn kidding areas: May 15 – June 15 Mule deer fawning areas: June 1 – June 30 Mule deer migration

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>lambling areas: February 1 – May 15</p> <ul style="list-style-type: none"> ○ Elk calving areas (should elk expand their range further): May 15 – June 15 ○ Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: January 1 – April 15 ○ Big game migration/ movement corridors ○ Crucial habitat areas ● Fluid mineral leases within 0.6 mile of springs, meadows, and riparian corridors (late brood-rearing habitat) within Greater Sage-Grouse PGMA from May 15 to August 15 (dates can be extended to September 15 for the Bi-State distinct population segment) 	<p>following areas (dependent on seasonal and site-specific conditions; See <i>Wildlife, Big Game Species</i>):</p> <ul style="list-style-type: none"> ○ Pronghorn kidding areas: May 15 – June 15 ○ Mule deer fawning areas: June 1 – June 30 ○ Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 ○ Bighorn sheep lambing areas: February 1 – May 15 ○ Elk calving areas (should elk expand their range further): May 15 – June 15 ● Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: November 1 – May 	<p>and movement corridors: March 1 to May 15 and October 1 to November 30</p> <ul style="list-style-type: none"> ○ Bighorn sheep lambing areas: February 1 – May 15 ○ Elk calving areas: May 15 – June 15 ○ Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: December 1 – May 1 ○ Big game migration/ movement corridors ○ Crucial habitat areas ● Fluid mineral leases within 0.6 mile of springs, meadows, and riparian corridors (late brood-rearing habitat) within Greater Sage-Grouse PGMA from May 15 to August 15 (dates can be extended to September 15 for the Bi-State distinct population segment)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				Fluid mineral leases within 0.6 mile of springs, meadows, and riparian corridors (late brood-rearing habitat) within Greater Sage-Grouse PGMA from May 15 to August 15 (dates can be extended to September 15 for the Bi-State distinct population segment)	
340.	Mineral Materials (Salable)				
341.	Objective: No similar objective.	Objective: Make available and encourage development of mineral material resources to meet national, regional and local needs consistent with national objectives to ensure an adequate supply of minerals.	Objective: Manage mineral material resources to develop deposits of known moderate to high mineral material resource potential to provide for the needs of individuals, municipalities, and business, while assuring compatibility with and protection of other resources and uses. Emphasis should be placed on developing the fewest number of material sites necessary.	Objective: Manage mineral material resources to develop deposits of known moderate to high mineral material resource potential to provide for the needs of individuals, municipalities, and business, while assuring compatibility with and protection of other resources and uses. Material sites in the urban interface would be reclaimed to meet the needs of adjacent communities.	Objective: Manage mineral material resources to develop deposits of known moderate to high mineral material resource potential to provide for the needs of individuals, municipalities, and business, while assuring compatibility with and protection of other resources and uses. Material sites in the urban interface would be reclaimed to meet the needs of adjacent communities. Emphasis should be placed on developing the fewest number of material sites

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
342.	<p>Action: Manage the following areas as closed to mineral material disposal (564,200 acres; Figure 2-43):</p> <ul style="list-style-type: none"> • WSAs (see <i>Wilderness Study Areas</i>) • Jumbo Postpile area (40 acres) 	<p>Action: Manage the following areas as closed to mineral material disposal (807,200 acres; Figure 2-44):</p> <ul style="list-style-type: none"> • Caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> ◦ Dynamite Cave ◦ Hidden Cave • WSAs (see <i>Wilderness Study Areas</i>) • Within 300-foot radius of known human burial (see <i>Tribal Interests</i>) • US DOD Coordination Area (see <i>Public Health and Safety</i>) 	<p>Action: Manage the following areas as closed to mineral material disposal (3,004,800 acres; Figure 2-45):</p> <ul style="list-style-type: none"> • Caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> ◦ Dynamite Cave ◦ Hidden Cave • Priority watersheds containing municipal water supplies (see <i>Soils and Water Resources</i>) • Riparian/wetland areas with 200-foot buffer (see <i>Vegetation, Riparian Wetlands</i>) • Fish and wildlife priority habitats (see <i>Fish and Wildlife</i>) • Within 0.5 mile of active raptor nests, including special status raptors (see <i>Fish and Wildlife, Raptors</i>) • Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ◦ Churchill Narrows 	<p>Action: Manage the following areas as closed to mineral material disposal (807,700 acres; Figure 2-46):</p> <ul style="list-style-type: none"> • Caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> ◦ Dynamite Cave ◦ Hidden Cave • Within 1,000-foot radius of municipal well heads in priority watersheds (see <i>Soils and Water Resources</i>) • Virginia Range Williams Combleaf Botanical ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) • WSAs (see <i>Wilderness Study Areas</i>) • East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) • Within 0.25-mile radius of known human burial (see 	<p>necessary.</p> <p>Action: Manage the following areas as closed to mineral material disposal (1,955,400 acres; Figure 2-47):</p> <ul style="list-style-type: none"> • Caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> ◦ Dynamite Cave ◦ Hidden Cave • Within 1,000-foot radius of municipal well heads in priority watersheds (see <i>Soils and Water Resources</i>) • Fish and wildlife priority habitats (see <i>Fish and Wildlife</i>) • Within 0.5 mile of active raptor nests, including special status raptors (see <i>Fish and Wildlife, Raptors</i>) • Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • Pistone site (see <i>Cultural Resources</i>) • Ruhenstroth Paleontological ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) • High potential historic

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> ○ Buckwheat Botanical ○ Clan Alpine Greater Sage-Grouse ○ Desatoya Greater Sage-Grouse ○ Incandescent Rocks Scenic ○ Portion of Lassen Red Rock Scenic ○ Namazii Wunu Cultural ○ Pine Nut Bi-State Sage-Grouse ○ Ruhenstroth Paleontological ○ Steamboat Buckwheat Botanical ○ Virginia City National Landmark Historic District ○ Virginia Mountains Greater Sage-Grouse ○ Virginia Range Williams Combleaf Botanical ● NHT corridors within 2.5-mile buffer from either side of centerline (see <i>National Historic Trails</i>) ● WSAs (see <i>Wilderness Study Areas</i>) ● East Fork Carson River Segment I (within 0.25 mile of either side of the 	<ul style="list-style-type: none"> <i>Tribal Interests</i>) ● Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 	<ul style="list-style-type: none"> sites and high potential route segments along NHT corridors within 1-mile buffer from either side of centerline (see <i>National Historic Trails</i>) ● WSAs (see <i>Wilderness Study Areas</i>) ● East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) ● Within 300-foot radius of known human burial (see <i>Tribal Interests</i>) ● Virginia Range ERMA (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Virginia Range ERMA</i>) ● Department of Defense Coordination Area (see <i>Public Health and Safety</i>)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>ordinary high water mark; see <i>Wild and Scenic Rivers</i>)</p> <ul style="list-style-type: none"> • Within 1-mile radius of known human burial (see <i>Tribal Interests</i>) • Virginia Range ERMA (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Virginia Range ERMA</i>) • Backcountry Wildlife Conservation Areas (see <i>Backcountry Wildlife Conservation Areas</i>) • Lands proposed for protection of wilderness characteristics 		
343.	Action: No mineral material sales or disposal will be authorized within the 40-acre Jumbo Postpile area.	Action: No similar action.	Action: Same as Alternative A (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Virginia Range ERMA</i>).	Action: No similar action.	Action: Same as Alternative A (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Virginia Range ERMA</i>).
344.	Action: In the Reno area, keep 46 mineral material sites open for sales and free use, restructure use of the sites to accommodate VRM and monitor to insure compliance.	Action: No similar action.			
345.	Action: Continue to operate existing aggregate facilities on BLM-administered land. Expansion of existing	Action: Continue to operate existing aggregate facilities. Expansion of existing operations would require standard approval	Action: Close existing aggregate facilities or do not renew when the permit expires if incompatible with: <ul style="list-style-type: none"> • Wildlife management 	Action: Same as Alternative B, with the following exception: <ul style="list-style-type: none"> • Close facilities or do not renew if 	Action: Same as Alternative B, with the following exception: <ul style="list-style-type: none"> • Close facilities or do not renew if incompatible

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	operations will require standard approval through a joint permitting process with the BLM (Mineral Materials Sale Contract) and Washoe County (Special Use Permit; Figure 2-43).	through a joint permitting process with the BLM (Mineral Materials Sale Contract) and the appropriate County (Figure 2-44).	objectives <ul style="list-style-type: none"> • Cultural management objectives • Special designation objectives (Figure 2-45) 	incompatible with adjacent land uses within the urban interface. Expansion of existing operations would require standard approval through a joint permitting process with the BLM (Mineral Materials Sale Contract) and the appropriate County (Figure 2-46).	with adjacent land uses or other resource management objectives. Expansion of existing operations would require standard approval through a joint permitting process with the BLM (Mineral Materials Sale Contract) and the appropriate County (Figure 2-47).
346.	Action: Restrict new permanent aggregate facilities to locations that are topographically screened or concealed from sight of existing or planned residential areas and major transportation corridors (Washoe County Plan).	Action: No similar action.	Action: Restrict new permanent aggregate facilities to locations that do not result in negative impacts on wildlife, vegetation, cultural or special designation management objectives.	Action: Restrict new permanent aggregate facilities to locations that are topographically screened or concealed from sight of existing or planned residential areas and major transportation corridors within the urban interface.	Action: Restrict new permanent aggregate facilities to locations that are topographically screened or concealed from sight of existing or planned residential areas and major transportation corridors within the urban interface. Special consideration would be given to meet wildlife, vegetation, cultural or special designation management objectives.
347.	Action: New temporary aggregate facilities will be available to government entities only. Restrict proposed sites to locations that are topographically screened or concealed	Action: No similar action.	Action: New temporary aggregate facilities would be available to government entities only. Restrict proposed sites to locations that do not result in negative impacts on wildlife,	Action: New temporary aggregate facilities would be available to government entities only. Restrict proposed sites to locations that are	Action: New temporary aggregate facilities would be available to government entities only. Restrict proposed sites to locations that are topographically screened or concealed from

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	from sight or visually unobtrusive to existing or planned residential areas and major transportation corridors (Washoe County Plan).		vegetation, cultural or special designation management objectives	topographically screened or concealed from sight of existing or planned residential areas and major transportation corridors within the urban interface.	sight of existing or planned residential areas and major transportation corridors within the urban interface. Special consideration would be given to meet wildlife, vegetation, cultural or special designation management objectives.
348.	Action: No similar action.	Action: Establish community pits and common use areas of various sizes to serve both urban and rural communities as well as industry.	Action: Consider community pits and common use areas where deposits of moderate to high mineral material resource potential exist to meet reasonably foreseeable demand for commodities that does not conflict with other resource objectives. Community pits and common use areas should be established at appropriate locations with sufficient capacity, avoiding a proliferation of sites for similar materials in a given area.	Action: Consider community pits and common use areas where deposits of moderate to high mineral material resource potential exist to meet the existing and reasonably foreseeable demand for commodities that does not conflict with other resource objectives. Community pits and common use areas should be established at appropriate locations with sufficient capacity, avoiding a proliferation of sites for similar materials in a given area. Community pits and common use areas should be managed so that deposits of moderate to high	Action: Consider community pits and common use areas where deposits of moderate to high mineral material resource potential exist to meet the existing and reasonably foreseeable demand for commodities that does not conflict with other resource objectives. Community pits and common use areas should be established at appropriate locations with sufficient capacity, avoiding a proliferation of sites for similar materials in a given area. Preference would be given to sales from currently existing community pits or common use areas.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				mineral material resource potential would be developed for community-based expansion.	
349.	Nonenergy Leasable Minerals				
350.	Objective: No similar objective.	Objective: Provide opportunity for exploration and development of solid minerals such as sodium, potassium, phosphate except where incompatible with other resource values.			
351.	Action: No similar action.	Action: Open 3,821,300 acres to nonenergy mineral leasing, with only standard lease terms and stipulations (Figure 2-49).	Action: Open 1,842,400 acres to nonenergy mineral leasing, with only standard lease terms and stipulations (Figure 2-50).	Action: Open 3,821,300 acres to nonenergy mineral leasing, with only standard lease terms and stipulations (Figure 2-51).	Action: Open 3,017,400 acres to nonenergy mineral leasing, with only standard lease terms and stipulations (Figure 2-52).
352.	Action: No similar action.	Action: Restrict nonenergy mineral leasing and mineral material disposal within Greater Sage-Grouse PPMA and PGMA if it is determined that there would be adverse impacts on Greater Sage-Grouse or their habitat.	Action: Close Greater Sage-Grouse PPMA and PGMA (414,200 acres) to nonenergy mineral leasing.	Action: Same as Alternative B.	Action: Same as Alternative C.
353.	Action: Close the following areas (738,800 acres) to nonenergy mineral leasing (Figure 2-48): <ul style="list-style-type: none"> • WSAs (see <i>Wilderness Study Areas</i>) Close key areas in the planning area to sodium and potassium leasing:-	Action: Close the following areas (981,900 acres) to nonenergy mineral leasing (Figure 2-49): <ul style="list-style-type: none"> • WSAs (see <i>Wilderness Study Areas</i>) • Within 300-foot radius of known human burial (see <i>Tribal Interests</i>). 	Action: Close the following areas (2,960,800 acres) to nonenergy mineral leasing (Figure 2-50): <ul style="list-style-type: none"> • Priority watersheds containing municipal water supplies (see <i>Soils and Water Resources</i>) • Fish and wildlife priority habitats (see <i>Fish and</i> 	Action: Close the following areas (981,900 acres) to nonenergy mineral leasing (Figure 2-51): <ul style="list-style-type: none"> • Within 1,000-foot radius of municipal well heads in priority watersheds (see <i>Soils and Water Resources</i>) 	Action: Close the following areas (1,785,900 acres) to nonenergy mineral leasing (Figure 2-52): <ul style="list-style-type: none"> • Within 1,000-foot radius of municipal well heads in priority watersheds (see <i>Soils and Water Resources</i>) • Within 0.5 mile of active raptor nests, including

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Galena Creek Jumbo Reservoir Truckee River Carson River Jones Canyon Reservoir Southern Washoe Urban Interface plan area 	<ul style="list-style-type: none"> A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 	<p><i>Wildlife</i>).</p> <ul style="list-style-type: none"> Within 0.5 mile of active raptor nests, including special status raptors (see <i>Fish and Wildlife, Raptors</i>) Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Carson wandering skipper Churchill Narrows Buckwheat Botanical Incandescent Rocks Scenic Portion of Lassen Red Rock Scenic Namazii Wunu Cultural Ruhenstroth Paleontological Virginia City National Landmark Historic District Virginia Range Williams Combleaf Botanical NHT corridors within 2.5-mile buffer from either side of the centerline (see <i>National Historic Trails</i>) 	<ul style="list-style-type: none"> Virginia Range Williams Combleaf Botanical ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) WSAs (see <i>Wilderness Study Areas</i>) East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) Within 0.25-mile radius of known human burial (see <i>Tribal Interests</i>) A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 	<p>special status raptors (see <i>Fish and Wildlife, Raptors</i>)</p> <ul style="list-style-type: none"> Sand Mountain SRMA (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) Ruhenstroth Paleontological ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) High potential historic sites and high potential route segments along NHT corridors within 1-mile buffer from either side of centerline (see <i>National Historic Trails</i>) Virginia City National Historic Landmark District (see <i>Cultural Resources</i>) WSAs (see <i>Wilderness Study Areas</i>) East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) Within 300-foot radius of known human burial (see <i>Tribal Interests</i>)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • WSAs (see <i>Wilderness Study Areas</i>) • East Fork Carson River Segment I (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>) • Within 1-mile radius of known human burial (see <i>Tribal Interests</i>) • A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) • Backcountry Wildlife Conservation Areas (see <i>Backcountry Wildlife Conservation Areas</i>) • Lands proposed for protection of wilderness characteristics 		<ul style="list-style-type: none"> • A portion of Washoe County (formerly known as Southern Washoe County Urban Interface Planning Area) • Greater Sage-Grouse PPMA and PGMA • Lands proposed for protection of wilderness characteristics • Department of Defense Coordination Area (see <i>Public Health and Safety</i>)
354.	Recreation and Visitor Services				
355.	GOAL: Provide a diversity of recreation settings and opportunities for dispersed and organized users while protecting natural and cultural resources.				
356.	Actions common to all: <ul style="list-style-type: none"> • Provide a wide range of developed and dispersed recreation opportunities that meet projected recreation demand within the planning area. • Manage recreation use on BLM-administered land to protect natural resources, provide for public health and safety, and minimize conflicts among various uses. • Increase public awareness of recreation opportunities and experiences through interpretation, education, and stewardship principles. • Collaboration will occur for all permitted recreation activities adjacent to Navy-administered lands or on Navy withdrawn lands. • Acquire easements to provide access to BLM-administered lands where needed to meet recreation objectives. • Support the planning and implementation of recreational trails in cooperation with city and county governments (e.g., Sun Valley Rim Trail, Carson Valley Trails, Canoe Hill Trail, Tahoe-Pyramid Bikeway). 				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none">• Work in cooperation with State and local governments to develop recreational facilities and activities that are mutually beneficial.• Support partnerships for cooperative funding, stewardship, monitoring, operations and maintenance to maximize resources and protect public lands for future generations.• Create and update supplemental rules to address public safety, health, and manageability concerns.• Unless otherwise authorized, the possession, discharge, or use of all fireworks is prohibited.• Prohibit burning of wood or other material containing nails or any other metal components on BLM-administered land.• Personal property may not be left unattended in a campground, designated recreation area, or on any other BLM-administered lands for more than 48 hours. Vehicles left parked for the purpose of overnight camping, hiking, river rafting, or other authorized recreation activities are exempt.• Establishing occupancy, taking possession of, or otherwise using BLM-administered lands for residential purposes is prohibited, except as allowed under 43 CFR 3715.2, 3715.2-1, 3715.5, 3715.6, or with prior written authorization from the BLM.				
357.	Objective: No similar objective.	Objective: Encourage cooperation in the development and public use of recreation sites on or near Navy-administered lands.			
358.	Action: The Navy and the BLM will assess improving recreation facilities at Horse Creek and establishing a trailhead to the Clan Alpine Wilderness Study Area.	Action: Coordinate with NDOW and the Navy for the development of recreation facilities and trailhead parking on Navy-administered land in Horse Creek Canyon for Clan Alpine WSA access. Assess the feasibility of improving recreation facilities on Navy-administered land in partnership with the Navy. Assess the feasibility of establishing an equestrian staging area on Navy-administered land separate from the hiking/camping staging area on Navy-administered lands for Clan Alpine WSA access.			
359.	Recreational Shooting				
360.	Actions common to all: <ul style="list-style-type: none">• Allow recreational shooting on BLM-administered lands except where prohibited by statute or county ordinance.• Prohibit shooting at exploding targets (e.g., tannerite or pressurized containers) and/or explosives.• Prohibit shooting at glass targets (e.g., televisions or bottles), targets on trees, or at trees.• Prohibit shooting across or towards roads, trails, and military ranges.				
361.	Objective: No similar objective.	Objective: Provide opportunities for recreational shooting while ensuring public health and safety, resource protection and multiple uses.	Objective: Protect resources and provide for public health and safety by emphasizing use of target shooting ranges and limiting ecological damaging shooting equipment.	Objective: Provide opportunities for recreational shooting while emphasizing public health and safety, education, and other uses of the lands within the urban interface.	Objective: Same as Alternative B.

Table 2-2
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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
362.	Action: No similar action.	Action: <ul style="list-style-type: none"> Support the development and onsite management of target shooting ranges through conveyance of the land. No commercial SRPs would be issued for target shooting in WSAs, ACECs, or as identified in the management plan or supplemental rules. 		Action: Same as Alternative B, plus: <ul style="list-style-type: none"> Restrict shooting during high fire danger. 	
363.	Action: Per Federal Register Notice, the discharge of firearms is prohibited in the following areas (see <i>Public Health and Safety</i>): <ul style="list-style-type: none"> American Flat Mill 10 acres (Notice # NV-030-97001; December 20, 1996) Pine Nut Road No. 2 (Notice # NV030-97-1330-00; October 15, 1997) Moonrocks (Notice # NV-030-92-04; July 27, 1992) 				
364.	Special Recreation Permits				
365.	Objective: No similar action.	Objective: Provide for commercial activities, competitive events, and organized groups while minimizing adverse environmental impacts.	Objective: Same as Alternative B, plus: <ul style="list-style-type: none"> Focus on casual use demands in the urban interface to address user and residential conflicts associated with this demand. 		
366.	Action: No similar action.	Action: For motorized recreation events and activities: <ul style="list-style-type: none"> Maintain a minimum setback of 0.25 mile, as appropriate, between populated areas (nearest occupied residence) unless an exception is issued by the Authorized Officer. Designate available courses and allowable travel modes for SRPs through the travel management planning process. 	Action: For motorized and nonmotorized recreation events and activities: <ul style="list-style-type: none"> Maintain a minimum setback of 0.5 mile, as appropriate, between populated areas (nearest occupied residence) unless an exception is issued by the Authorized Officer. 		Action: Same as Alternative B.

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
367.	Other Designations				
368.	Action: Identify the Jumbo Postpile on maps and construct an interpretive trail. Authorize no mineral material disposal in the 40-acre area.	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Service, Extensive Recreation Management Areas - Virginia Range ERMA</i>).	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Service, Extensive Recreation Management Areas - Virginia Range ERMA</i>).
369.	Action: Maintain the roaded natural, general recreation opportunities in Bedell Flat and Dry Valley areas by keeping the existing 2-wheel-drive dirt road system, and limiting developments to those which do not alter the present undeveloped character of the landscape.	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Dry Valley ERMA</i>).	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Dry Valley ERMA</i>).
370.	Action: Pine Nuts Recreation Lands: Manage the Pine Nut “recreation lands” to preserve both vehicle and nonvehicle recreation opportunities in a natural environment.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Pine Nut ERMA</i>).			
371.	Action: Allow development of a facility at Granite Mountain for use by hang-glider recreationists. Designate a safety zone to discourage new above-ground structures on BLM-administered lands.	Action: No similar action.			

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Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
372.	Action: Indian Creek Recreation Lands: Manage the Indian Creek Recreation Lands to preserve passive recreation opportunities in a natural environment.	Action: No similar action (see <i>Recreation and Visitor Services, Special Recreation Management Areas - Alpine SRMA</i>).			
373.	Action: Virginia Mountains Recreation Lands: Manage the Virginia Mountains “recreation lands” to maintain, provide and protect semi-primitive recreation opportunities for both motorized and nonmotorized users. Encourage the use of activities that do not require substantial development.	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Virginia Mountain ERMA</i>).	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Virginia Mountain ERMA</i>).
374.	Action: Red Rocks Scenic Area: Manage the Red Rocks Scenic Area to protect geologic features. Develop a day use picnic area with interpretation kiosk. Ensure mining plans of operation would protect areas scenic quality and not impair recreational use.	Action: No similar action.	Action: No similar action (see <i>Special Designations, Areas of Critical Environmental Concern – Lassen Red Rock Scenic ACEC and Recreation and Visitor Services, Extensive Recreation Management Area - Petersen ERMA</i>).	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Area - Petersen ERMA</i>).
375.	Action: Within the Washoe County Plan Amendment area, maintain a buffer of 0.25 mile or	Action: No similar action (see <i>Recreation and Visitor Services - Special Recreation Permits</i>).			

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	more, as appropriate, between populated areas and BLM-permitted recreation events, if it is determined through environmental review that the proposed event may have negative impacts on nearby residents.				
376.	Motocross Tracks and Facilities				
377.	Objective: No similar objective.	Objective: Provide opportunity for motocross use but do not pursue the development or management of motocross facilities unless through an Recreation & Public Purpose lease.			
378.	Action: No similar action.	Action: Prohibit the construction of and eliminate all user created motocross tracks within the planning area that conflict with management goals or resource objectives, do not meet industry standards, or compromise public health and safety.			
379.	Action: Develop a motocross course in Lemmon Valley.	Action: <ul style="list-style-type: none"> • Maintain the Lemmon Valley Motocross Area open OHV designation. • Manage the motocross area for general, commercial, and competitive motocross, BMX, and similar riding opportunities, until leased. • Pursue partnerships to manage use and maintenance of the facility. Seek easement through private land to secure public access to site to include periodic maintenance of access road. 	Action: <ul style="list-style-type: none"> • Eliminate the Lemmon Valley Motocross opportunities at Lemmon Valley. • Remove and rehabilitate motocross related features and provide for rehabilitation of area. 	Action: <ul style="list-style-type: none"> • Pursue Recreation & Public Purpose lease to County or City entities for management and operation of Lemmon Valley Motocross facility. • Pursue partnerships to manage use and maintenance of the facility. • Seek easement through private land to secure public access to site and include periodic maintenance of access road. <i>(also see Recreation and Visitor Services, Extensive Recreation Management Areas - Reno Urban Interface ERMA)</i>	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		(also see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Reno Urban Interface ERMA</i>)			
380.	Special Recreation Management Areas				
381.	Goal: Manage SRMAs to support and sustain the principal recreation activities identified for the area as the primary resource and to protect recreational opportunities and setting characteristics.				
382.	Summary of Special Recreation Management Areas				
383.	Summary: Continue to manage the following 2 locations as Special Recreation Management Areas (Figure 2-53): <ul style="list-style-type: none"> Indian Creek/East Fork Carson River SRMA (7,600 acres) Walker Lake SRMA (60,100 acres) 	Summary: Manage 6 areas as SRMAs in order to protect recreation opportunities, values and experiences while promoting regional economic development (Figure 2-54): <ul style="list-style-type: none"> Alpine (5,800 acres): <ul style="list-style-type: none"> Indian Creek Campground RMZ (500 acres) East Fork Carson River RMZ (1,600 acres) Dispersed RMZ (3,700 acres) Dead Camel Mountain (16,800 acres) Hungry Valley (21,600 acres) Sand Mountain (7,400 acres): <ul style="list-style-type: none"> Dune RMZ (1,300 acres) Desert Habitat 	Summary: Manage 3 areas as SRMAs in order to protect recreation opportunities, values, and experiences with an emphasis on the protection of cultural, historical and natural resources (Figure 2-55): <ul style="list-style-type: none"> Alpine (10,700 acres): <ul style="list-style-type: none"> Indian Creek Campground RMZ (500 acres) East Fork Carson River RMZ (2,500 acres) Dispersed RMZ (7,700 acres) Sand Mountain (3,900 acres): <ul style="list-style-type: none"> Dune RMZ (1,300 acres) Desert Habitat RMZ (2,600 acres) Walker Lake (60,100 acres): 	Summary: Manage 4 areas as SRMAs in order to protect recreation opportunities, values, and experiences with an emphasis on issues unique to the urban interface (Figure 2-56): <ul style="list-style-type: none"> Alpine (7,400 acres): <ul style="list-style-type: none"> Indian Creek RMZ (500 acres) East Fork Carson River RMZ (1,600 acres) Dispersed RMZ (5,300 acres) Dead Camel Mountain (37,400 acres) Hungry Valley (21,800 acres): <ul style="list-style-type: none"> Moonrocks RMZ (5,900 acres) Wilson Canyon (500 	Summary: Manage 6 areas as SRMAs in order to protect recreation opportunities, values, and experiences (Figure 2-57): <ul style="list-style-type: none"> Alpine (7,700 acres): <ul style="list-style-type: none"> Indian Creek RMZ (500 acres) East Fork Carson River RMZ (2,500 acres) Dispersed RMZ (4,700 acres) Dead Camel Mountain (37,400 acres): <ul style="list-style-type: none"> Dead Camel North RMZ (17,100 acres) Dead Camel South RMZ (20,600 acres) Hungry Valley (16,200 acres) Sand Mountain (19,700 acres): <ul style="list-style-type: none"> Dune RMZ (1,300 acres) Desert Habitat RMZ

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> ○ RMZ (2,600 acres) ○ Mining District RMZ (3,500 acres) • Walker Lake (24,000 acres): <ul style="list-style-type: none"> ○ Sportsman's Beach RMZ (100 acres) ○ Wassuk RMZ (23,900 acres) • Wilson Canyon (500 acres): <ul style="list-style-type: none"> ○ Copper Belt RMZ (200 acres) ○ West Walker River RMZ (300 acres) 	<ul style="list-style-type: none"> ○ Sportsman's Beach RMZ (100 acres) ○ Shoreline RMZ (600 acres) ○ Wassuk RMZ (23,900 acres) ○ Gillis Range RMZ (35,500 acres) 	<ul style="list-style-type: none"> ○ acres): ○ Copper Belt RMZ (200 acres) ○ West Walker River RMZ (300 acres) 	<ul style="list-style-type: none"> ○ (2,600 acres) ○ Trail Riders RMZ (12,300 acres) ○ Mining District RMZ (3,500 acres) • Walker Lake (24,600 acres): <ul style="list-style-type: none"> ○ Sportsman's Beach RMZ (100 acres) ○ Shoreline RMZ (600 acres) ○ Wassuk RMZ (23,900 acres) • Wilson Canyon (500 acres): <ul style="list-style-type: none"> ○ Copper Belt RMZ (200 acres) ○ West Walker River RMZ (300 acres)
384.	Alpine SRMA				
385.	Objective: Continue managing Indian Creek Recreation Area as an SRMA for recreational use	Objective: Designate the Alpine SRMA emphasizing nonmotorized recreation and managing for camping, interpretation and environmental education, reservoir access, fishing, and hiking through the establishment of RMZs.	Objective: Designate the Alpine SRMA emphasizing nonmotorized recreation and managing for camping, interpretation and environmental education, reservoir access, fishing, and hiking through the establishment of RMZs.	Objective: Designate the Alpine SRMA emphasizing nonmotorized recreation and managing for camping, interpretation and environmental education, reservoir access, fishing, and hiking through the establishment of RMZs.	Objective: Designate the Alpine SRMA emphasizing nonmotorized recreation and managing for camping, interpretation and environmental education, reservoir access, fishing, and hiking through the establishment of RMZs.
386.	Action: Continue managing 7,000 acres of Indian Creek/East Fork of	Action: Establish the Alpine SRMA with 3 RMZs and manage as follows:	Action: Same as Alternative B except: <ul style="list-style-type: none"> • Manage East Fork Carson 	Action: Same as Alternative B except: <ul style="list-style-type: none"> • Manage the East Fork 	Action: Same as Alternative D except: <ul style="list-style-type: none"> • Prohibit OHV staging at

Table 2-2
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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	the Carson River Recreation Area as an SRMA for recreational use.	<ul style="list-style-type: none"> • Designate and map the regional trail system. • Indian Creek Campground RMZ <ul style="list-style-type: none"> ○ Expand recreation campground site boundary to include east side of reservoir. ○ Prohibit dispersed camping. ○ Manage as a use area. ○ Manage as VRM Class III. ○ Maintain existing withdrawal to protect recreational values. ○ Continue fee collections necessary to provide for adequate management and law enforcement staffing. ○ All food and food scraps, empty cans or wrappers, and scented items such as toiletries, sunscreen, or 	River RMZ as VRM Class I.	<p>Carson River Corridor within the Dispersed Use RMZ as VRM Class II.</p> <ul style="list-style-type: none"> • Manage the East Fork Carson River RMZ as VRM Class II. 	Hangman's Bridge parking in the East Fork Carson River RMZ.

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Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>insect repellent must be stored in the provided food storage box or placed in designated bear-proof garbage receptacles.</p> <ul style="list-style-type: none"> • East Fork Carson River RMZ <ul style="list-style-type: none"> ○ Manage Hangman's Bridge for day use. ○ Manage Hangman's Bridge for primary boat launching river access and day use parking. ○ Allow OHV staging at Hangman's Bridge Parking. ○ Manage Pebble Beach river ingress / egress to address public health and safety. ○ Manage as VRM Class III. • Dispersed Use RMZ <ul style="list-style-type: none"> ○ Limit Curtz Lake trailhead and trails to day use. ○ In coordination with Alpine County and Cal Trans, evaluate 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>Curtz Lake trail system connectivity with Turtle Rock Park. Construct connecting nonmotorized trail segment(s) if appropriate.</p> <ul style="list-style-type: none"> ○ Manage as VRM Class II. 			
387.	Dead Camel Mountains SRMA				
388.	Objective: No similar objective.	Objective: Designate the Dead Camel Mountains SRMA for motorized travel multi-use recreational area with the primary objective of providing a location for casual and permitted events that would facilitate regional tourism and activities.	Objective: No similar objective. Nondesignated routes within the Dead Camel Mountains would be decommissioned and hillsides would be rehabilitated.	Objective: Designate the Dead Camel Mountains SRMA as an off-road motorcycle riding area to meet the demands of the off-road motorcycle riding communities by providing a location for casual motorized use and permitted OHV events while addressing other resource demands and user conflicts.	Objective: Designate the Dead Camel Mountains SRMA primarily as an off-road motorcycle riding area to meet the demands of the off-road motorcycle riding communities by providing a location for casual motorized use and permitted OHV events.
389.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Manage as open to cross-country travel. • Establish a designated staging and camping area with information kiosks. Allow for motorized and nonmotorized SRP 	Action: No similar action.	Action: <ul style="list-style-type: none"> • Manage a motorized route system for 4-wheel drive vehicles, motorcycles, all-terrain vehicles (ATVs), and utility vehicles (UTVs), and a nonmotorized 	Action: Establish 2 RMZs: <ul style="list-style-type: none"> • Dead Camel North RMZ where motorized travel is open. • Dead Camel South RMZ where travel is limited to existing routes. <ul style="list-style-type: none"> ○ Establish a primitive

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>competitive events on a first come basis.</p> <ul style="list-style-type: none"> • Authorize nonmotorized events and recreational uses on an equal basis with motorized use. • Pursue developing collaborative partnerships. • Provide for a wide range of motorized and nonmotorized recreational opportunities. • Facilitate community-based recreation and tourism events. • Promote recreational OHV-based tourism. • Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. • Manage as VRM Class IV. 		<p>route system for mountain bikes and equestrian use.</p> <ul style="list-style-type: none"> • Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. • Manage as VRM Class III. 	<p>staging and camping area for casual and competitive use with signage and information kiosks.</p> <ul style="list-style-type: none"> ○ Establish an exclusionary zone for permitted uses in the vicinity of Salt Cave and motorized travel limited to designated routes. ○ Allow for SRP competitive nonmotorized recreation where appropriate based on public safety. ○ Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. ○ Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps on site in Fallon. ○ Provide for point to point OHV race corridors through the SRMA for Best

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
					in the Desert Vegas to Reno and similar events. <ul style="list-style-type: none"> ○ Manage as VRM Class IV.
390.	Hungry Valley SRMA				
391.	Goal: Manage for a variety of OHV recreational experiences.				
392.	Objective: No similar objective.	Objective: Designate the Hungry Valley SRMA as a multi-use recreational area promoting OHV-based tourism.	Objective: No similar objective.	Objective: Same as Alternative B.	
393.	Action: Continue managing the Hungry Valley OHV area. Manage as open to cross-country OHV travel (27,402 acres).	Action: Establish the Hungry Valley SRMA as follows: <ul style="list-style-type: none"> • Manage as open to cross-country motorized travel. • Allow for organized events on a case-by-case basis. • Prohibit campfires outside of designated camp sites. • Maintain up to 50 miles of groomed loop trails for motorized use opportunities. • Develop partnerships to share route and area maintenance. • Provide for the development, maintenance and 	Action: No similar action (see <i>Recreation and Visitor Services – Reno Urban Interface ERMA</i>).	Action: Establish the Hungry Valley SRMA as follows: <ul style="list-style-type: none"> • Manage as limited to existing routes. • Allow for organized events on a case-by-case basis. • Prohibit campfires outside of designated sites. • Maintain up to 100 miles of groomed loop trails for motorized use opportunities. • Do not designate camping or staging areas outside of the Moonrocks RMZ. • Provide for the development, 	Action: Same as Alternative D except: <ul style="list-style-type: none"> • Prohibit competitive rock-crawling SRPs within the Moonrocks RMZ and at Warm Springs Mountain. • Implement fee collections necessary to provide for adequate management and law enforcement staffing. • Designate and map regional trail system.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>management of facilities and trails through partnerships or land use authorizations.</p> <ul style="list-style-type: none"> • Prohibit user-defined motocross opportunities in camp areas. • Manage as VRM Class IV. • Allow rockcrawling in 2 areas (e.g., Moonrocks and Warm Springs Mountain). • Establish as a fee area. • Establish designated staging and camping areas with information kiosks. • Implement fee collections necessary to provide for adequate management and law enforcement staffing. • Designate and map regional trail system. 		<p>maintenance, and management of facilities and trails through partnerships or land use authorizations.</p> <ul style="list-style-type: none"> • Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. • Manage as VRM Class IV. • Develop educational and interpretive signage for trail systems. • Establish the Moonrocks RMZ <ul style="list-style-type: none"> ○ Open to motorized travel ○ Manage as a fee area. ○ Designate and maintain access roads into fee area. ○ Designate and develop up to three separate camp areas (e.g., Moonrocks, Tot lot, and Big Wash). 	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
				<ul style="list-style-type: none"> ○ Closed to recreational shooting. • Implement fee collections necessary to provide for adequate management and law enforcement staffing. • Designate and map regional trail system. 	
394.	Sand Mountain SRMA				
395.	Goal: Manage for OHV recreational experiences, nonmotorized activities, unique geological feature, and Native American values.				
396.	Objective: No similar objective.	Objective: Designate the Sand Mountain SRMA for motorized and nonmotorized recreational activities while protecting sensitive resources.	Objective: Designate the Sand Mountain SRMA to protect sensitive species habitat and Native American values as the primary resource management objective.	Objective: No similar objective.	Objective: Designate the Sand Mountain SRMA for motorized recreational opportunities as the primary resource management objective while protecting sensitive species habitat, Native American values, unique geologic values while providing opportunities for nonmotorized recreation activities.
397.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Eliminate fee use designation. • Maintain current facilities. • Manage the camp area for use as a campground for Sand Mountain users and as a staging area for long- 	Action: <ul style="list-style-type: none"> • Manage as VRM Class II. • Establish 2 RMZs <ul style="list-style-type: none"> ○ Dune RMZ, manage as open to motorized travel. ○ Desert Habitat RMZ, manage as closed to motorized travel. 	Action: No similar action.	Action: <ul style="list-style-type: none"> • Update supplemental rules. • Continue fee collections necessary to provide for adequate management and law enforcement staffing. • Designate and map regional trail system.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>distance regional trail users.</p> <ul style="list-style-type: none"> • Manage as VRM Class IV. • Provide educational materials for abandoned mine lands. • Manage the abandoned mine land hazards. • Establish 3 RMZs <ul style="list-style-type: none"> ○ Dune RMZ, manage as open to motorized travel. ○ Desert Habitat RMZ, manage as closed to motorized travel. ○ Mining District RMZ, manage as travel limited to existing trails. 			<ul style="list-style-type: none"> • Manage the Sand Springs Pony Express Station and NHT for historical interpretation. • Close to nonenergy mineral leasing. • Close to fluid mineral leasing. • Restrict new ROW authorizations to existing ROW corridors. • Implement seasonal closure up to 2 months per year (generally 2 weeks during each season) to address Native American traditional religious uses and nonmotorized recreational opportunities. • Provide educational materials to recreationists for abandoned mine lands. • Manage the abandoned mine land hazards. • Authorize organized and competitive SRP events that do not create user conflicts. • Establish a day use fee in addition to the annual and weekly fees.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
					<ul style="list-style-type: none"> • Manage as VRM Class III. • Establish 4 RMZs <ul style="list-style-type: none"> ○ Dune RMZ, manage as open to motorized travel. ○ Desert Habitat RMZ, manage as closed to motorized and mechanized travel. ○ Trail Riders RMZ, manage as travel limited to designated existing trails for habitat protection. ○ Mining District RMZ, manage as travel limited to existing trails.
398.	Walker Lake SRMA				
399.	Goal: Manage for a variety of land and water-based casual use and permitted recreational activities.				
400.	Objective: Continue managing Walker Lake Recreation Area as an SRMA for recreational use (87,000 acres).	Objective: Designate the Walker Lake SRMA for developed and dispersed camping and recreational activities.	Objective: Designate the Walker Lake SRMA for recreational activities while limiting future development of facilities or expansion of developed and primitive camping areas.	Objective: No similar objective.	Objective: Designate the Walker Lake SRMA for developed and dispersed camping opportunities and general recreation use emphasizing water-based and nonmotorized land-based related activities over OHV use.
401.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Pursue collaborative management opportunities with local agencies and 	Action: <ul style="list-style-type: none"> • Only permit camping in designated camp areas of Tamarack Beach, Twenty Mile Beach and the Cove, 	Action: No similar action.	Action: <ul style="list-style-type: none"> • Develop supplemental rules. • Pursue collaborative management

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>communities.</p> <ul style="list-style-type: none"> • Develop designated hiking, equestrian and motorized trails on the west side of Highway 95. • Manage as VRM Class III. • Establish 2 RMZs <ul style="list-style-type: none"> ○ Sportsman's Beach RMZ where camping is restricted to designated sites and motorized travel restricted to designated routes. ○ Wassuk RMZ where dispersed camping is allowed and is open to motorized travel. 	<p>and as dispersed camping on the east side of the lake.</p> <ul style="list-style-type: none"> • Prohibit development of motorized and nonmotorized trails within the SRMA. • Manage as VRM Class II. • SRPs would not be authorized for organized, commercial and competitive-based recreational activities. • Establish 4 RMZs <ul style="list-style-type: none"> ○ Sportsman's Beach RMZ where camping is restricted to designated campsites and motorized travel is limited to designated routes. ○ Shoreline RMZ where dispersed camping is allowed within 300 feet of roads and motorized travel is limited to designated routes. ○ Wassuk RMZ where camping is prohibited and motorized travel is limited to designated routes. ○ Gillis Range RMZ where dispersed 		<p>opportunities with local agencies.</p> <ul style="list-style-type: none"> • Facilitate community-based recreation and tourism events. • Prohibit the collection of nonrenewable resources such as rocks, mineral specimens, common invertebrate fossils, and semi-precious stones. • Develop hiking and equestrian trails on the west side of Highway 95. • Manage as VRM Class III. • Establish 3 RMZs <ul style="list-style-type: none"> ○ Sportsman's Beach RMZ for developed fee camping, which is restricted to designated sites. ○ Shoreline RMZ on the east side of Highway 95 for dispersed fee camping where dispersed camping excluding the Sportsman's Beach RMZ. ○ Wassuk RMZ on the west side of Highway 95 as closed to dispersed camping for public

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			camping is allowed and travel is limited to designated routes.		safety and wildlife protection.
402.	Wilson Canyon SRMA				
403.	Objectives: No similar objective.	Objectives: Designate the Wilson Canyon SRMA for recreational opportunities such as OHV touring and trail riding, developed site camping, and fishing and provide river access.	Objectives: No similar objective.	Objectives: Same as Alternative B.	
404.	Action: No similar action.	Action: Provide visitor services including trail identification and route signage, information kiosks, and visitor use maps. Establish 2 RMZs <ul style="list-style-type: none"> • Copper Belt RMZ <ul style="list-style-type: none"> ○ Provide developed camp opportunities north of Copper Belt Road. Limit camp opportunities on south side of Copper Belt Road to protect riparian corridor. ○ No commercial target shooting SRPs would be authorized. ○ Closed to 	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas – Singatse ERMA</i>).	Action: Same as Alternative B except: <ul style="list-style-type: none"> • Allow overnight camping within the West Walker RMZ. 	Action: Same as Alternative B except: <ul style="list-style-type: none"> • Prohibit parking and camping on West Walker River bank within the West Walker River RMZ.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>motorized travel (Mechanized is limited to existing).</p> <ul style="list-style-type: none"> • West Walker River RMZ <ul style="list-style-type: none"> ○ Manage for day use only. ○ Provide nonmotorized, nonmechanized river access. ○ Establish parking areas. ○ Partner with Nevada Department of Transportation to provide safe egress and ingress to sites along river off Highway 208. ○ SRPs would be authorized only for nonmotorized commercial. 			
405.	Extensive Recreation Management Areas (ERMAs)				
406.	Goal: Manage areas identified as ERMAs to support and sustain the principal recreation activities identified for the area commensurate with other resources and resource uses in a manner that maintains and protects the desired quality and conditions of recreational opportunities identified for the ERMA.				
407.	Summary of Extensive Recreation Management Areas				
408.	Summary: There are no ERMAs currently designated.	Action: Manage the following areas as ERMAs with management actions that provide for	Action: Manage the following areas as ERMAs with management actions that provide for recreational	Action: Manage the following areas as ERMAs with an emphasis on management actions	Action: Manage the following areas as ERMAs with a management emphasis that address

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		recreational opportunities and resource protection while promoting regional economic development (Figure 2-58): <ul style="list-style-type: none"> • Middlegate (268,700 acres) • Mina (824,700 acres) • Mustang (400 acres) • Pah Rah (20,000 acres) • Pine Nut (201,100 acres): <ul style="list-style-type: none"> ○ Rural RMZ (138,900 acres) ○ Front Country RMZ (10,400 acres) ○ Pine Nut Crest RMZ (51,800 acres) • Reno Urban Interface (70,600 acres) • Salt Wells (292,900 acres) • 102 Ranch (120 acres) 	opportunities with an emphasis on the protection of cultural, historical and natural resources (Figure 2-59): <ul style="list-style-type: none"> • Bagley Valley (2,600 acres) • Dry Valley (84,100 acres) • Faye-Luther (40 acres) • Middlegate (195,300 acres) • Mina (486,400 acres) • Mustang (400 acres) • Pah Rah (20,000 acres) • Petersen (42,200 acres) • Pine Nut (201,100 acres): <ul style="list-style-type: none"> ○ Rural RMZ (138,900 acres) ○ Front Country RMZ (10,400 acres) ○ Pine Nut Crest RMZ (51,800 acres) • Reno Urban Interface (91,000 acres) • Salt Wells (113,700 acres) • Singatse (174,900 acres) • Virginia Mountains (68,100 acres); • Virginia Range (48,800 acres) • 102 Ranch (120 acres) 	that address recreation issues unique to BLM-administered lands and the urban interface (Figure 2-60): <ul style="list-style-type: none"> • Faye-Luther (600 acres) • Mustang (400 acres); • Pah Rah (20,000 acres) • Pine Nut (201,100 acres): <ul style="list-style-type: none"> ○ Rural RMZ (138,900 acres) ○ Front Country RMZ (10,400 acres) ○ Pine Nut Crest RMZ (51,800 acres) • Reno Urban Interface (70,400 acres) • 102 Ranch (120 acres) 	recreation demands commensurate with resource protection and multiple use (Figure 2-61): <ul style="list-style-type: none"> • Bagley Valley (2,600 acres) • Dry Valley (83,000 acres) • Faye-Luther (100 acres) • Middlegate (268,700 acres) • Mina (824,700 acres) • Mustang (400 acres) • Pah Rah (20,000 acres) • Petersen (42,200 acres): <ul style="list-style-type: none"> ○ Lassen Red Rock RMZ (200 acres) • Pine Nut (201,100 acres): <ul style="list-style-type: none"> ○ Rural RMZ (138,900 acres) ○ Front Country RMZ (10,400 acres) ○ Pine Nut Crest RMZ (51,800 acres) • Reno Urban Interface (70,600 acres) • Salt Wells (280,400 acres) • Singatse (174,900 acres) • Virginia Mountains (68,100 acres) • Virginia Range (48,800 acres) • 102 Ranch (120 acres)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
409.	I02 Ranch and Mustang ERMA's				
410.	Objective: No similar objective.	Objective: Designate the I02 Ranch and Mustang ERMA's for casual use and dispersed recreation opportunities that emphasize dog walking, photography, nature observation, hiking, river access, environmental education and interpretation.	Objective: Designate the I02 Ranch and Mustang ERMA's for casual use and dispersed recreation opportunities that emphasizes dog walking, photography, nature observation, hiking, river access, environmental education and interpretation while providing protection for cultural, historical and natural resources.	Objective: Same as Alternative B.	Objective: Designate the I02 Ranch and Mustang ERMA's for casual use and dispersed recreation opportunities that emphasizes dog walking, photography, nature observation, hiking, river access, environmental education and interpretation while providing for mitigation of user conflicts and resource damage.
411.	Action: No similar action.	Action: <ul style="list-style-type: none"> Prohibit motorized and mechanized SRP events. Manage and maintain connected trails for casual trail hiking and limited bicycling experiences. Pursue partnerships to share road and trail maintenance. Designate parking areas. Manage as VRM Class III. Manage I02 Ranch as a day use site. Develop camping opportunities at 	Action: Same as Alternative B except: <ul style="list-style-type: none"> Manage Mustang as day use only. No SRPs would be authorized. 	Action: Same as Alternative B.	Action: Same as Alternative B except: <ul style="list-style-type: none"> Manage Mustang as day use only.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Mustang. <ul style="list-style-type: none"> Develop boat launch site at Mustang Ranch on south side of river. Maintain access road on south side of river (Mustang) to 2-wheeled drive high ground clearance vehicles. 			
412.	Bagley Valley ERMA				
413.	Objectives: No similar objective.		Objective: Designate the Bagley Valley ERMA for passive recreation opportunities including backpacking, dispersed camping, fishing, mountain biking, motorized and nonmotorized recreation while providing protection for cultural, historical, and natural resources.	Objective: No similar objective.	Objective: Same as Alternative C.
414.	Action: No similar action.		Action: <ul style="list-style-type: none"> Restrict motorized overland snow travel to Company Meadows area. Manage Bagley Valley as closed to motorized travel (mechanized is limited to existing routes). Manage as VRM Class II. SRPs for competitive events would not be authorized. 	Action: No similar action.	Action: Same as Alternative C.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
415.	Dry Valley ERMA				
416.	Objective: No similar objective.		Objective: Designate the Dry Valley ERMA for dispersed recreation opportunities including hiking, mountain biking, OHV, equestrian and dispersed camping while providing protection for cultural, historical, and natural resources.	Objective: No similar objective.	Objective: Same as Alternative C.
417.	Action: No similar action.		Action: <ul style="list-style-type: none"> Limit mechanized, equestrian and foot travel to designated roads, primitive roads and trails. Provide visitor services such as trail identification and route signage information kiosks, and visitor use maps. Manage as VRM Class III. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Provide connectivity for OHVs between Hungry Valley SRMA and Fort Sage SRMA (BLM CA-Eagle Lake Field Office). Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps. Manage as VRM Class III.
418.	Faye-Luther ERMA				
419.	Objective: No similar objective.		Objective: Designate the Faye-Luther ERMA for day use recreation opportunities, including nonmotorized activities that emphasize hiking, biking, dog walking, nature observation, photography and interpretation.	Objective: Designate the Faye-Luther ERMA for day use recreation opportunities, including nonmotorized activities that emphasize hiking, biking, dog walking, nature observation, photography, interpretation and equestrian use.	
420.	Action: No similar action.		Action: <ul style="list-style-type: none"> Prohibit motorized and 	Action: Same as Alternative C plus:	Action: Same as Alternative C plus:

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>mechanized SRP-based activities and events.</p> <ul style="list-style-type: none"> • Prohibit overnight camping. • Prohibit camp fires. • Maintain approximately 1 mile of access road to Forest Service Guidelines for Road Maintenance Levels (level 2 road with single lane and native surface) to provide for administrative and emergency access. • Manage and maintain connected trails for hiking experiences. • Formalize and continue the existing partnership with Carson Valley Trails Association to share road and trail maintenance. • Manage as closed to motorized use. • Manage as VRM Class II. • In coordination with the Forest Service, evaluate connectivity of Faye-Luther trail system to Tahoe Rim Trail. • Construct connecting trail segment(s) if appropriate. 	<ul style="list-style-type: none"> • Manage and maintain connected trails for hiking and equestrian use. • Manage as VRM Class III. 	<ul style="list-style-type: none"> • Manage and maintain connected trails for hiking and equestrian use. • Manage as VRM Class III. • Provide for mitigation of user conflicts and resource damage.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
421.	Middlegate ERMA				
422.	Objectives: No similar objective.	Objectives: Designate as the Middlegate ERMA for recreational activities that emphasizes long distance trail riding for ATV, UTV, and motorcycles.	Objectives: Designate the Middlegate ERMA for recreational activities that emphasizes long distance trail riding for ATV, UTV, and motorcycles while providing for protection for cultural, historical and natural resources.	Objectives: No similar objective.	Objectives: Designate the Middlegate ERMA for casual use and dispersed recreation opportunities that emphasizes long distance trail riding for ATV, UTV, and motorcycles while providing for the protection of natural resources and mitigation of user conflicts and resource damage.
423.	Action: No similar action.	Action: <ul style="list-style-type: none"> Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. Promote recreational OHV-based tourism with an emphasis on ATV/UTV regional trail riding. Develop educational and interpretive signage for trail systems and historical sites. Provide interpretive and educational materials for unique or significant historical and cultural features and sites. Designate staging and camping areas. 	Action: <ul style="list-style-type: none"> No SRPs would be authorized. Activities that adversely impact cultural or historic resources would not be authorized. Sensitive cultural or historical features or sites would not be interpreted. Manage 195,300 acres as VRM Class III. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Designate staging and camping areas when needed to protect resources. Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps in the communities of Middle Gate, Cold Springs, and Gabbs. Develop ERMA-specific brochures with public safety, travel management, tread lightly, and disbursed camping regulations. Manage as VRM Class III. Manage for casual day use and dispersed recreation opportunities.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> Manage 268,700 acres as VRM Class III. 			<ul style="list-style-type: none"> Develop designated loop trail systems with staging areas. Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. Manage 268,700 acres as VRM Class III.
424.	Mina ERMA				
425.	Objective: No similar objectives.	Objective: Designate the Mina ERMA for recreational activities that emphasizes long distance trail riding for ATV and UTV from the local communities of Mina, Luning, Gabbs, and Hawthorne while providing for protection of natural resources.	Objective: Designate the Mina ERMA for recreational activities that emphasizes long distance trail riding for ATV and UTV while providing protection for cultural, historical, and natural resources.	Objective: No similar objective.	Objective: Designate the Mina ERMA for casual use and dispersed recreation opportunities that emphasizes long distance trail riding for ATV and UTV from local communities of Mina, Luning, Gabbs, and Hawthorne while providing for protection of natural resources.
426.	Action: No similar action.	Action: <ul style="list-style-type: none"> Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. Promote recreational OHV-based tourism with an emphasis on ATV/UTV regional trail riding. Develop educational 	Action: <ul style="list-style-type: none"> SRPs would not be authorized. Activities that adversely impact cultural or historic resources would not be authorized. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Designate staging and camping areas when needed to protect resources. Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps in the communities of Luning, Mina, and Hawthorne.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		and interpretive signage for trail systems and historical sites. <ul style="list-style-type: none"> • Designate staging and camping areas. • Manage 824,700 acres as VRM Class III. 			<ul style="list-style-type: none"> • Develop ERMA-specific brochures with public safety, travel management, tread lightly, and dispersed camping regulations. • Manage as VRM Class III. • Develop designated loop trail systems with staging areas. • Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. • Provide for point-to-point OHV race corridors and similar race events.
427.	Pah Rah ERMA				
428.	Objective: No similar objective.	Objectives: Designate the Pah Rah ERMA for mountain biking, hiking, and environmental education opportunities while providing for protection of natural resources.	Objective: Designate the Pah Rah ERMA for mountain biking, hiking, and environmental education opportunities emphasizing protection of cultural, historical, and natural resources.	Objective: Same as Alternative B.	Objective: Designate the Pah Rah ERMA for mountain biking, hiking, and environmental education opportunities while providing for protection of natural resources.
429.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Prohibit overnight camping associated with SRP activities or events. • Provide visitor services 	Action: <ul style="list-style-type: none"> • Manage for casual day use and dispersed recreation opportunities. • Overnight camping associated with an SRP 	Action: Same as Alternative B.	Action: Same as Alternative B plus: <ul style="list-style-type: none"> • Provide for mitigation of user conflicts and resource damage.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		such as trail identification and route signage, information kiosks, and visitor use maps. <ul style="list-style-type: none"> Manage as VRM Class III. 	activity or event would not be authorized. <ul style="list-style-type: none"> Manage as VRM Class III. 		
430.	Petersen ERMA				
431.	Objectives: Designate Petersen Ridge Area as "Recreation Lands."	Objectives: No similar objective.	Objectives: Designate the Petersen ERMA for dispersed recreation opportunities emphasizing equestrian-based activities, hiking, mountain biking and backpacking while providing protection for cultural, historical, and natural resources as well as crucial winter range for mule deer. For management actions regarding the Lassen Red Rock Scenic ACEC, located within the Petersen ERMA, see <i>Special Designations, Areas of Critical Environmental Concern – Lassen Red Rock Scenic ACEC</i> .	Objectives: No similar objective.	Objectives: Designate the Petersen ERMA for dispersed recreation opportunities emphasizing equestrian-based activities, hiking, mountain biking, backpacking while providing for mitigation of user conflicts and resource damage, protect crucial winter range for mule deer, and designate Lassen Red Rock RMZ.
432.	Action: <ul style="list-style-type: none"> Manage for semi-primitive, nonmotorized recreation. Acquire legal vehicle access to the Petersen Ridge trailhead. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Manage Petersen Ridge as closed to motorized and mechanized travel. No SRPs would be authorized. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Manage Petersen Ridge as closed to motorized travel (mechanized is limited to existing routes). Manage Sand Hills as closed to motorized

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Develop facilities and a hiking trail system. 				<p>travel from December 1 - April 30 for winter mule deer (see <i>Fish and Wildlife, Big Game</i>).</p> <ul style="list-style-type: none"> Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps. Manage 42,000 acres as VRM Class III. Prohibit motorized competitive events. Manage Lassen Red Rock RMZ (200 acres) as follows: <ul style="list-style-type: none"> Develop a day use rest stop picnic area with an interpretive kiosk. Manage as VRM Class II. Develop a site plan to include site boundary, parking and picnic area, sign plan, and improved main access road. Develop partnerships to assist with road maintenance and public safety. Manage for day use and prohibit camping

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
					<p>and campfires.</p> <ul style="list-style-type: none"> ○ Recommend a portion of the RMZ for withdrawal from locatable mineral entry (5 acres).
433.	Pine Nut ERMA				
434.	Objectives: No similar objective.	Objective: Designate the Pine Nut ERMA to provide recreational opportunities that emphasize motorized and mechanized recreation opportunities (Management of the Burbank Canyon WSA, located within the ERMA, is addressed under WSA) while providing for protection and restoration of natural resources.	Objective: Designate the Pine Nut ERMA to provide recreational opportunities that emphasize mechanized and nonmotorized recreation opportunities while providing for protection and restoration of natural resources.	Objective: Same as Alternative B.	Objective: Designate the Pine Nut ERMA to provide recreational opportunities that emphasize motorized, mechanized and nonmotorized recreation opportunities (Management of the Burbank Canyon WSA, located within the ERMA, is addressed under WSA) while providing for protection and restoration of natural resources.
435.	Action: No similar action.	Action: <ul style="list-style-type: none"> • No motorized staging areas would be authorized within 1,500 feet of occupied residence. • Pursue easements for key access points both motorized and nonmotorized. • Designate staging and developed camp areas when needed to protect resources. 	Action: Same as Alternative B, with the following exceptions: <ul style="list-style-type: none"> • No access easements would be pursued. • No SRPs would be authorized. • Develop staging and trails to facilitate nonmotorized use. Establish 2 RMZs <ul style="list-style-type: none"> • Front Country RMZ (10,400 acres): 	Action: Same as Alternative B.	Action: Same as Alternative B plus: <ul style="list-style-type: none"> • Maintain up to 100 miles of designated, groomed loop trails for motorized use opportunities. • Maintain up to 50 miles of designated, groomed loop trails for nonmotorized use opportunities. • Develop staging and trails to facilitate nonmotorized use.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps. • Prohibit mass start competitive motorized SRPs. • Promote recreational OHV-based tourism with an emphasis on motorcycle, ATV and UTV trail riding. • Maintain up to 200 miles of designated, groomed loop trails for motorized use opportunities. • Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. • Develop educational and interpretive signage for trail systems. <p>Establish 3 RMZs</p> <ul style="list-style-type: none"> • Front Country RMZ (10,400 acres): <ul style="list-style-type: none"> ○ Designate OHV staging and developed camp areas. 	<ul style="list-style-type: none"> ○ Emphasize passive, nonmotorized use (hiking, equestrian). • Pine Nut Crest RMZ (51,800 acres): <ul style="list-style-type: none"> ○ Manage as VRM Class II. 		<p>Establish the Front Country RMZ (10,400 acres):</p> <ul style="list-style-type: none"> • Emphasize passive, nonmotorized use (hiking, equestrian).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> ○ Manage as VRM Class III. ● Pine Nut Crest RMZ (51,800 acres): <ul style="list-style-type: none"> ○ Manage motorized use emphasizing OHV touring and trail riding. ○ Manage as VRM Class III. ● Rural RMZ (138,900 acres): <ul style="list-style-type: none"> ○ Prohibit motorized staging areas. ○ Manage for casual use. ○ Manage as VRM Class IV. 			
436.	Reno Urban Interface ERMA				
437.	Objective: No similar objective	Objective: Designate the Reno Urban Interface ERMA for recreational activities that emphasizes BLM-administered land access and recreation opportunities.	Objective: Designate Reno Urban Interface ERMA for BLM-administered land access and recreational activities while providing emphasis on protection for cultural, historical, and natural resources.	Objective: Same as Alternative B.	Objective: Designate the Reno Urban Interface ERMA for BLM-administered land access and casual use and dispersed recreation.
438.	Action: No similar action.	Action: <ul style="list-style-type: none"> ● Manage Lemmon Valley Motocross area as per the <i>Recreation and Visitor Services, Motocross Tracks and Facilities</i>. 	Action: <ul style="list-style-type: none"> ● Eliminate the Lemmon Valley Motocross area (see <i>Recreation and Visitor Services, Motocross Tracks and Facilities</i>). ● Prohibit competitive and 	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps. • Establish designated staging and camping areas with information kiosks. • Develop OHV staging areas consistent with county ordinance. • Relocate Chickadee OHV staging area away from residential area. • Manage as VRM Class IV. 	<p>commercial motorized-events and activities.</p> <ul style="list-style-type: none"> • Develop OHV staging areas a minimum of 0.25 miles from any occupied residence. 		
439.	Salt Wells ERMA				
440.	Objective: No similar objective.	Objective: Designate the Salt Wells ERMA for casual use and dispersed recreation opportunities that emphasizes long distance trail riding for motorized and nonmotorized uses.	Objective: Designate the Salt Wells ERMA for casual use and dispersed recreation opportunities that emphasizes long distance trail riding for motorized and nonmotorized uses while providing protection for cultural, historical and natural resources.	Objective: No similar objective.	Objective: Designate the Salt Wells ERMA for casual use and dispersed recreation opportunities that emphasizes long distance trail riding for motorized and nonmotorized uses.
441.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or 	Action: <ul style="list-style-type: none"> • SRPs for commercial, competitive or organized events would not be authorized. 	Action: No similar action.	Action: <ul style="list-style-type: none"> • Designate staging and dispersed camp areas when needed to protect resources.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		ambassador programs. <ul style="list-style-type: none"> Promote recreational OHV-based tourism with an emphasis on long distance regional trail riding. Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps at Sand Mountain and major access roads. Manage as VRM Class IV. 	<ul style="list-style-type: none"> Activities that adversely impact cultural or historic resources would not be authorized. Manage as VRM Class II. 		<ul style="list-style-type: none"> Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps at Sand Mountain and major access roads. Develop ERMA-specific brochures with public safety education, travel management, tread lightly, and dispersed camping regulations. Manage as VRM Class III. Manage for casual day use and dispersed recreation opportunities. Pursue partnerships with local clubs and organizations for OHV adopt-a-trail or ambassador programs. Provide for point to point and circuit OHV race corridors around Cocoon and Bunejug Mountains and similar events.
442.	Singatse ERMA				
443.	Objective: No similar objective.		Objective: Designate the Singatse ERMA for dispersed motorized opportunities.	Objective: No similar objective.	Objective: Designate the Singatse ERMA for motorized opportunities with an emphasis on OHV touring, trail riding, and dispersed camping.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
444.	Action: No similar action.		Action: <ul style="list-style-type: none"> Prohibit motorized SRP events while allowing for commercial motorized activities and organized groups. Manage as VRM Class III. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Establish designated OHV staging areas with information kiosks. Develop OHV trail head in the northeast section of ERMA off State Highway Alt 95. Manage as VRM Class IV.
445.	Virginia Mountains ERMA				
446.	Objective: No similar objective.		Objective: Designate the Virginia Mountain ERMA for recreational activities while providing emphasis on protection for cultural, historical, and natural resources.	Objective: No similar objective.	Objective: Designate the Virginia Mountain ERMA for hiking, back packing equestrian riding, nature observation, photography and camping opportunities.
447.	Action: No similar action.		Action: <ul style="list-style-type: none"> Manage as VRM III. Prohibit motorized SRP events, activities, and organized groups. 	Action: No similar action.	Action: <ul style="list-style-type: none"> Manage as VRM Class III. Prohibit motorized SRP events and activities.
448.	Virginia Range ERMA				
449.	Objective: No similar objective	Objective: No similar objective.	Objective: Designate the Virginia Range ERMA for recreational activities while providing emphasis on protection for cultural, historical, and natural resources.	Objective: No similar objective.	Objective: Virginia Range ERMA for recreation opportunities that emphasize both motorized and nonmotorized recreation uses. Emphasize equestrian use east of Washoe Lake, mountain biking north of Centennial Park, and OHV touring and trail riding east of Jumbo staging area.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
450.	Action: No similar action.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Provide visitor services such as route identification and signage. • Prohibit competitive SRPs. • Manage as VRM Class III. • Close to mineral material disposal. 	Action: No similar action.	Action: <ul style="list-style-type: none"> • Provide visitor services such as trail identification and route signage, information kiosks, and visitor use maps. • No mass start competitive motorized SRPs would be authorized. • Develop a Jumbo Post-pile Interpretive Trail and trailhead. • Develop a Jumbo Post Pile site plan to include site boundary, parking area, interpretive plan, and sign plan and trailhead kiosk. • Manage the Jumbo Post-pile interpretive trail and trailhead as a day use site. • Close to mineral material disposal.
451.	Public Lands Not Designated as Recreation Management Areas				
452.	Objective: No similar objective.	Objective: Lands that are not designated as Recreation Management Areas (SRMAs or EERMAs) will be managed to meet basic recreation and visitor services and resource stewardship needs. Recreation activities may occur but will not be emphasized and will be managed in a manner that does not conflict with the identified primary resource use of the area.			
453.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Provide for visitor health and safety, and resource protection as necessary when new or existing recreation activities occur. • Resolve use and/or user conflicts with a higher value being placed on the primary resource use identified for the 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		area over recreation opportunities. <ul style="list-style-type: none">Issue SRPs for commercial, competitive, or organized activities when the action does not conflict with the primary resource use or values for the area.			
454.	Comprehensive Travel and Transportation Management				
455.	Goal: Develop an interdisciplinary and collaborative approach to comprehensive travel and transportation planning and management that addresses resource uses and associated access to BLM-administered lands and waters, including motorized, nonmotorized, mechanical, and animal-powered modes of travel.				
456.	Actions common to all: <ul style="list-style-type: none">Ensure travel and transportation planning and management is an interdisciplinary and collaborative process involving all resource programs.Develop, implement, and monitor travel and transportation implementation plans for all identified travel management areas.Coordinate with federal, tribal, state, and local agencies user groups, and the general public concerned with travel and transportation planning and management.Manage uses on BLM-administered lands to meet the travel and transportation needs of people engaged in administrative, commercial, agricultural, casual, traditional, and recreational programs.Manage newly acquired lands as limited for OHV use, limiting use to existing routes until completion or inclusion in a TMP.				
457.	Objective: Ensure protection of important resource values and to allow for off-highway vehicle use.	Objective: Designate motor vehicle use areas to protect resources, promote user safety, and minimize conflicts among various uses of the public lands.			
458.	Action: Manage 3,840,300 acres as open to cross-country travel. All BLM-administered lands are open unless specifically restricted or closed (Figure 2-62). <ul style="list-style-type: none">Hungry Valley	Action: Manage the following 95,300 acres as open to OHV use (43 CFR 8342) where use of OHVs and other motorized use is unrestricted (Figure 2-63): <ul style="list-style-type: none">Lemmon Valley motocross area (200 acres; see Recreation and Visitor Services, Motocross Tracks and Facilities)SRMAs (see Recreation	Action: Manage the following 1,300 acres as open to OHV use (43 CFR 8342) where use of OHVs and other motorized use is unrestricted (Figure 2-64): <ul style="list-style-type: none">Sand Mountain SRMA, Dune RMZ (see Recreation and Visitor Services, Special Recreation Management Areas)	Action: Manage the following 22,700 acres as open to OHV use (43 CFR 8342) where use of OHVs and other motorized use is unrestricted (Figure 2-65): <ul style="list-style-type: none">Dead Camel Mountains SRMA, Dead Camel North RMZ (see Recreation and Visitor Services, Special Recreation	Action: Manage the following 55,700 acres as open to OHV use (43 CFR 8342) where use of OHVs and other motorized use is unrestricted (Figure 2-66): <ul style="list-style-type: none">Lemmon Valley motocross area (200 acres; see Recreation and Visitor Services, Motocross Tracks and Facilities)SRMAs (see Recreation and Visitor Services, Special Recreation Management

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<i>and Visitor Services, Special Recreation Management Areas):</i> <ul style="list-style-type: none"> ○ Dead Camel Mountains ○ Hungry Valley ○ Sand Mountain, Dune RMZ ○ Walker Lake, Wassuk RMZ <ul style="list-style-type: none"> • Playas: <ul style="list-style-type: none"> ○ Edwards Creek Valley ○ Bune Jugs ○ Dixie Valley ○ Flannigan 		<i>Management Areas)</i>	<i>Areas):</i> <ul style="list-style-type: none"> ○ Dead Camel Mountains, Dead Camel North RMZ ○ Sand Mountain, Dune RMZ <ul style="list-style-type: none"> • Playas: <ul style="list-style-type: none"> ○ Edwards Creek Valley ○ Bune Jugs ○ Dixie Valley ○ Flannigan
459.	Action: Manage the following areas as closed to motorized travel(Figure 2-62): <ul style="list-style-type: none"> • Bagley Valley (378 acres) • Faye-Luther Canyon (894 acres) • Sand Springs Desert Study Area (50 acres) • Sand Mountain Recreation Area (2,096 acres) • Petersen Mountain (5,120 acres) to protect critical wildlife habitat and enhance nonmotorized recreational 	Action: Manage the following areas (26,700 acres) as closed to OHV and other motorized travel except for authorized administrative purposes with approval of the Authorized Officer. Management of these areas is temporary until the Travel Management Plan is completed (mechanized travel is limited to existing routes; Figure 2-63): <ul style="list-style-type: none"> • Carson wandering skipper habitat near Winnemucca Ranch Road (see <i>Special Status</i> 	Action: Manage the following areas (1,190,500 acres) as closed to OHV and other motorized travel except for authorized administrative purposes with approval of the Authorized Officer. Management of these areas is temporary until the Travel Management Plan is completed (mechanized travel is limited to existing routes; Figure 2-64): <ul style="list-style-type: none"> • Bagley Valley (2,600 acres) • Faye-Luther Canyon (40 acres) • Caves (See <i>Caves and Cave Resources</i>): 	Action: Manage the following areas (30,600 acres) as closed to OHV and other except for authorized administrative purposes with approval of the Authorized Officer. Management of these areas is temporary until the Travel Management Plan is completed motorized travel (mechanized travel is limited to existing routes; Figure 2-65): <ul style="list-style-type: none"> • Faye-Luther Canyon (590 acres) • Carson wandering 	Action: Manage the following areas (24,100 acres) as closed to OHV and other except for authorized administrative purposes with approval of the Authorized Officer. Management of these areas is temporary until the Travel Management Plan is completed motorized travel (mechanized travel is limited to existing routes; Figure 2-66): <ul style="list-style-type: none"> • Bagley Valley (2,600 acres) • Faye-Luther Canyon (110 acres). • Within 500 feet of caves (see <i>Caves and Cave</i>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>opportunities</p> <ul style="list-style-type: none"> Burbank Canyons Scenic Area (13,395 acres) Grimes Point Archaeological District (400 acres) to protect significant archaeological resources Carson-Iceberg (550 acres) Slinkard (2,375 acres) Fred's Mountain (3,100 acres) and lands northeast of the Reno-Sparks Indian Colony (1,940 acres) Through or in the immediate vicinity (near enough to the water source that its water quality or water quantity may be affected) of any surface water source, such as a spring or seep (see <i>Soil and Water Resources</i>) Any riparian area associated with meadows, marshes, springs, seeps, ponds, lakes, reservoirs or streams (see <i>Soil and Water Resources</i>) 	<p><i>Species, Fish and Wildlife</i>)</p> <ul style="list-style-type: none"> Petersen Ridge (5,120 acres) Fred's Mountain (3,100 acres) and lands northeast of the Reno-Sparks Indian Colony (1,940 acres) 	<ul style="list-style-type: none"> Dynamite Cave Hidden Cave ACECs (see <i>Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District Carson wandering skipper Churchill Narrows Buckwheat Botanical Dixie Valley Toad Fox Peak Cultural Lassen Red Rock Scenic Namazii Wunu Cultural Pah Rah High Basin Petroglyph Pine Nut Mountains Williams Combleaf Botanical Ruhenstroth Paleontological Tagim aša Cultural Virginia Range Williams Combleaf Botanical Congressionally designated historic trails and associated historic sites Within 500 feet of caves (see <i>Caves and Cave</i> 	<p>skipper habitat near Winnemucca Ranch Road (see <i>Special Status Species, Fish and Wildlife</i>)</p> <ul style="list-style-type: none"> A portion of the Wilson Canyon SRMA, Copper Belt RMZ (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) Faye-Luther ERMA (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>) Petersen Ridge (5,120 acres) Fred's Mountain (3,100 acres) and lands northeast of the Reno-Sparks Indian Colony (1,940 acres) 	<p><i>Resources</i>):</p> <ul style="list-style-type: none"> Dynamite Cave Hidden Cave A portion of the Wilson Canyon SRMA, Copper Belt RMZ (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) ERMAs (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> Faye-Luther Petersen ERMA, Peterson Ridge (5,120 acres)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Any channel bank, or streambed of a perennial stream (see <i>Soil and Water Resources</i>) Where threatened and endangered plants are located (see <i>Special Status Species, Plants</i>) 		<p><i>Resources</i>):</p> <ul style="list-style-type: none"> Dynamite Cave Hidden Cave A portion of wildlife priority habitat (see <i>Fish and Wildlife</i>; Figure 2-5) Sand Mountain SRMA, Desert Habitat RMZ (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) ERMAs (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): <ul style="list-style-type: none"> Faye-Luther Petersen (42,200 acres) 		
460.	<p>Action: Manage 6,900 acres as closed to motorized and mechanized travel (Figure 2-62):</p> <ul style="list-style-type: none"> 268 acres known as Harvey's Place within the Indian Creek Recreation withdrawal (this area is closed to all access) 10 acres known as American Flat Mill (per Federal Register Notice #NV-030-97001, December 20, 1996; this area is closed to all access) 	<p>Action: Manage 4,300 acres as closed to all motorized and mechanized travel (Figure 2-63):</p> <ul style="list-style-type: none"> 268 acres known as Harvey's Place within the Indian Creek Recreation withdrawal (this area is also closed to all access, including foot and equestrian) 10 acres known as American Flat Mill (per Federal Register Notice #NV-030-97001, December 20, 	<p>Action: Manage 598,000 acres as closed to all motorized and mechanized travel (Figure 2-64):</p> <ul style="list-style-type: none"> ACECs (see <i>Areas of Critical Environmental Concern</i> section): <ul style="list-style-type: none"> Churchill Narrows Buckwheat Botanical Grimes Point Archaeological District Pine Nut Mountains Williams Combleaf Sand Springs Desert Study Area Steamboat 	<p>Action: Manage 1,600 acres as closed to all motorized and mechanized travel (Figure 2-65):</p> <ul style="list-style-type: none"> 268 acres known as Harvey's Place within the Indian Creek Recreation withdrawal (this area is closed to all access) 10 acres known as American Flat Mill (per Federal Register Notice #NV-030-97001, December 20, 	<p>Action: Manage 6,200 acres as closed to all motorized and mechanized travel (Figure 2-66):</p> <ul style="list-style-type: none"> 268 acres known as Harvey's Place within the Indian Creek Recreation withdrawal (this area is closed to all access, including foot and equestrian) 10 acres known as American Flat Mill (per Federal Register Notice #NV-030-97001, December 20, 1996; this area is closed to all

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Black Canyon Road Fred's Mountain (3,100 acres) and lands northeast of the Reno-Sparks Indian Colony (1,940 acres) 	<p>1996; this area is closed to all access)</p> <ul style="list-style-type: none"> Desert Habitat RMZ within Sand Mountain SRMA Carson wandering skipper Habitat near Winnemucca Ranch Road (see <i>Fish and Wildlife</i>) 	<p>Buckwheat Botanical</p> <ul style="list-style-type: none"> Virginia Range Williams Combleaf WSAs (see <i>Wilderness Study Areas</i>) Within 500 feet of caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> Dynamite Cave Hidden Cave 268 acres known as Harvey's Place within the Indian Creek Recreation withdrawal (this area is closed to all access, including foot and equestrian) 10 acres known as American Flat Mill (per Federal Register Notice #NV-030-97001, December 20, 1996; this area is closed to all access) Desert Habitat RMZ within Sand Mountain SRMA (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) Petersen ERMA, Peterson Ridge (5,120 acres; see <i>Recreation and Visitor Services, Extensive Recreation Management</i> 	<p>1996; this area is closed to all access)</p>	<p>access)</p> <ul style="list-style-type: none"> Desert Habitat RMZ within Sand Mountain SRMA (see <i>Recreation and Visitor Services, Special Recreation Management Areas</i>) Caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> Within 500 feet of Dynamite Cave Within 500 feet of Hidden Cave Lands northeast of the Reno-Sparks Indian Colony (1,940 acres)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>Areas)</p> <ul style="list-style-type: none"> Fred's Mountain (3,100 acres) and lands northeast of the Reno-Sparks Indian Colony (1,940 acres) 		
461.	<p>Action: Manage the following areas as restricted or closed to motorized travel per Federal Register Notice unless notice is revised by Authorized Officer:</p> <ul style="list-style-type: none"> Jumbo Grade (Notice # NV-030-90-04; January 24, 1990) Golden Valley (Notice # NV-030-95-03; May 24, 1995) Stephanie Way and Fuller Avenue in the Johnson Lane area (Notice # NV-030-97-1220-00; November 1, 1996) Pine Nut Road No. 2 (Notice # NV030-97-1330-00; October 15, 1997) Petersen Mountain (Notice # NV-030-99-001; April 2, 1999) South Hungry Ridge/Northwest Spanish Springs (Notice # NV-030-00-001; March 30, 2000) West end of Wilson Canyon (Notice # NV-030-04-001; November 20, 2003) 				
462.	<p>Action: Manage 924,300 acres as limited to vehicle use (restrictions limiting use to existing routes, trails, and washes, seasonally or by type of user; Figure 2-62):</p> <ul style="list-style-type: none"> 5,521 acres of BLM-administered land identified in the Alpine County RMP Amendment (2007) as limited to designated routes and trails. Bagley Valley (5,143 or 6,200 acres) to reduce conflicts with wildlife, watershed, and scenic values and minimize conflicts on lands 	<p>Action: Manage 4,677,000 acres as limited to existing routes, primitive roads, and trails for OHV and other motorized use until subsequent route designation occurs (Figure 2-63).</p>	<p>Action: Manage 3,013,500 acres as limited to existing routes, primitive roads, and trails for OHV and other motorized uses until subsequent route designation occurs (Figure 2-64).</p>	<p>Action: Manage 4,748,400 acres as limited to existing routes, primitive roads, and trails for OHV and other motorized use until subsequent route designation occurs (Figure 2-65).</p>	<p>Action: Manage 4,717,300 acres as limited to existing routes, primitive roads, and trails for OHV and other motorized use until subsequent route designation occurs (Figure 2-66).</p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>adjacent to Forest Service wilderness area.</p> <ul style="list-style-type: none"> • 3,985 acres in and adjacent to Sand Mountain Recreation Area. • Red Rocks (700 acres) to protect outstanding scenic features. • Incandescent Rocks and Virginia Mountains (67,500 acres) to protect scenic, wildlife, wild horse, watershed and recreation values. • Steamboat Hot Springs ACEC to protect geysers, hot springs and endangered plants. • Bailey-Jumbo Watershed (8,600 acres) to protect riparian habitat and reduce soil loss and associated flood sediment damage occurring in adjacent urban areas. • Stewart Valley ACEC (16,000 acres) to protect highly significant paleontological resources. • Indian Creek/East Fork 				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>Carson River SRMA (6,065 acres) to enhance the use of developed recreation facilities and nonvehicle recreation activities.</p> <ul style="list-style-type: none"> • Pine Nut Mountain Crest (45,000 acres) to protect wildlife, recreation, watershed and scenic values. • West Side of Walker Lake (2,640 acres). 				
463.	<p>Action: OHV use is limited to existing roads and ways, except in emergency situations consistent with policy established in BLM Manual 6330 in the following areas.</p> <ul style="list-style-type: none"> • Augusta Mountains WSA (51,000 acres) • Burbank Canyons WSA (13,395 acres) • Carson Iceberg WSA (550 acres) • Clan Alpine WSA (196,128 acres) • Desatoya WSA (51,262 acres) • Gabbs Valley Range WSA (79,600 acres) • Job Peak WSA (90,209 	<p>Action: Motorized and mechanized travel is limited to primitive routes existing on October 21, 1976 in the following Wilderness Study Areas consistent with policy established in BLM Manual 6330 until such time they are designated as wilderness areas or released from wilderness consideration by Congress. If released by Congress, motorized travel would be limited to designated routes (Figure 2-63):</p> <ul style="list-style-type: none"> • Augusta Mountains (46,434 acres) • Burbank Canyons- (13,395 acres) 	<p>Action: No similar action (WSAs are closed to motorized and mechanized travel under this alternative).</p>	<p>Action: Same as Alternative B (Figure 2-65).</p>	<p>Action: Same as Alternative B (Figure 2-66).</p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	acres) <ul style="list-style-type: none"> Slinkard WSA (6,350 acres) Stillwater WSA (94,607 acres) 	<ul style="list-style-type: none"> Clan Alpine Mountains (196,128 acres) Desatoya Mountains (51,402 acres) Gabbs Valley Range (79,600 acres) Job Peak (90,209 acres) Stillwater Range (94,607 acres) 			
464.	Action: Implement seasonal closures for motorized travel in the following areas (Figure 2-62): <ul style="list-style-type: none"> Sand Hill critical deer range: December 1 – April 30 Bedell Flat strutting ground: March 1 – May 30 Surrounding all occupied raptor eyries: March 1 – June 15 	Action: Implement seasonal restrictions for all motorized travel in the following areas (limit motorized travel to existing routes the remainder of the year; Figure 2-63): <ul style="list-style-type: none"> Sand Hill critical deer range: Generally December 1 - April 30 (dependent on seasonal and site-specific conditions) Within 0.5 miles of active raptor nests (generally March 1 – August 31, but time periods may vary by species and seasonal conditions) 	Action: Implement seasonal restrictions for all motorized travel (limit mechanized travel to existing routes) in the following areas (limit motorized travel to existing routes the remainder of the year; Figure 2-64): <ul style="list-style-type: none"> Sand Hill critical deer range: Generally December 1 and April 30 (dependent on seasonal and site-specific conditions) Within 0.5 miles of active raptor nests (generally March 1 – August 31, but time periods may vary by species and seasonal conditions) ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Clan Alpine Greater 	Action: Implement seasonal restrictions for all motorized travel in the following areas (limit motorized travel to existing routes the remainder of the year; Figure 2-65): <ul style="list-style-type: none"> Sand Hill critical deer range: Generally December 1 - April 30 (dependent on seasonal and site-specific conditions) Within 0.5 miles of active raptor nests (generally March 1 – August 31, but time periods may vary by species and seasonal conditions) 	Action: Implement seasonal restrictions for all motorized travel in the following areas (limit mechanized travel to existing routes) in the following areas (limit motorized travel to existing routes the remainder of the year; Figure 2-66): <ul style="list-style-type: none"> Petersen ERMA (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas</i>): Sand Hill critical deer range: Generally December 1 – April 30 (dependent on seasonal and site-specific conditions) Sand Mountain SRMA: up to 2 months per year for Native American cultural/religious use (generally 2 weeks during

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>Sage-Grouse during brood rearing season</p> <ul style="list-style-type: none">○ Greater Sand Mountain: up to 2 months per year for Native American cultural/religious use (generally 2 weeks during each season)○ Pine Nut Bi-State Sage-Grouse within 3.25 miles of active leks from March 1 through May 15○ Virginia Mountains Greater Sage-Grouse within 3.25 miles of active leks from March 1 through May 15		<p>each season)</p> <ul style="list-style-type: none">• Within 0.5 miles of active raptor nests (generally March 1 – August 31, but time periods may vary by species and seasonal conditions)
465.	Travel Management Areas				
466.	Goal: Develop Travel Management Areas (TMAs) to adequately support specific resource management decisions or address motorized and nonmotorized trails, access or public needs unique to the defined area.				
467.	Objective: No similar objective.	Objective: Delineate TMAs that provide classification of all routes. For areas where route designations were not completed concurrently with the RMP, an interim designation would be defined where travel would be limited to existing routes except when cross-country travel is needed for safety or administrative needs until travel management plans are completed.			
468.	Action: No similar action.	Action: Establish the following 16 TMAs (Figure 2-67): <ul style="list-style-type: none">• Alpine County (18,600 acres)• Carson City (41,300 acres)• Central Churchill County (749,400 acres)• Dead Camel Mountains (37,400 acres)• Douglas County (162,500 acres)• Eastern Churchill County (1,011,400 acres)		Action: Establish the following 9 TMAs (Figure 2-68): <ul style="list-style-type: none">• Alpine County (18,600 acres)• Carson City (41,300 acres)• Dead Camel	Action: Establish the following 10 TMAs (Figure 2-69): <ul style="list-style-type: none">• Alpine/Douglas County (21,900 acres)• Churchill County (1,761,200 acres)• Dead Camel Mountain

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Eastern Mineral County (338,400 acres) • Lyon County East (275,800 acres) • Lyon County West (284,700 acres) • Northern Mineral County (571,400 acres) • Nye County (189,000 acres) • Sand Mountain (19,600 acres) • Southern Mineral County (486,500 acres) • Washoe North (390,800 acres) • Washoe South (40,300 acres) • Western Mineral County (185,600 acres) 		<p>Mountains (37,400 acres)</p> <ul style="list-style-type: none"> • Douglas County (162,500 acres) • Lassen County (26,800 acres) • Lyon County (560,500 acres) • Plumas County (800 acres) • Storey County (15,100 acres) • Washoe County (388,400 acres) 	<p>(37,400 acres)</p> <ul style="list-style-type: none"> • Lassen/Plumas County (27,600 acres) • Lyon County (519,500 acres) • Mineral County (1,581,800 acres) • Nye County (189,000 acres) • Pine Nut Mountains (226,200 acres); • Sand Mountain (19,600 acres) • Virginia City (53,100 acres) • Washoe County (365,600 acres)
469.	Action: No similar action.	<p>Action: During subsequent travel management planning, the interdisciplinary review team would analyze each route and recommend designations based on the criteria in 43 CFR 8342.1 as well as the criteria listed below:</p> <ul style="list-style-type: none"> • Route redundancy • VRM class objectives • Recreation opportunities • Administrative needs • Public access and safety needs • Special management areas • Cultural resources • Riparian and wetland resources • Other appropriate resource management concerns <p>Other travel management planning actions include:</p> <ul style="list-style-type: none"> • Minimize damage to resources and prevent impairment of wilderness suitability. • Minimize conflicts between off-road vehicle use and other existing or proposed uses. • Locate new construction or re-alignment of existing routes to avoid creating fragment resource tracts by issuance of ROWs. 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none">• Preserve open space.• Roads designated within the 2007 Alpine County Resource Management Plan Amendment will continue.• Attempt to acquire public access easements with willing landowners for administrative and public use.			
470.	Action: Manage the following areas, which have motorized travel restrictions per Federal Register Notice, unless notice is revised by Authorized Officer. The specific routes will be reassessed within the travel management plan: <ul style="list-style-type: none">• Road leading N-NW from fenceline (JDR #4306) near Summit Spring to the existing public land closure on Peterson Mountain (Notice # NV-030-91-04; August 23, 1991)• Road leading south along the east side of the main ridgeline, due west of August Spring and up to the existing public land closure on Peterson Mountain (Notice # NV-030-92-01; November 8, 1991)• Bailey-Jumbo watershed closure of secondary roads, not primary access routes (Notice # NV-030-96-002; April 9, 1996)				
471.	Lands and Realty				
472.	Land Tenure Adjustments				
473.	GOAL: Make land tenure adjustments for public benefit, in order to consolidate land patterns, ensure effective administration, improve resource management, maintain public values, and access to BLM-administered lands, and support community development.				
474.	Land Tenure Adjustments – Acquisitions				
475.	GOAL: Make land tenure adjustments for public benefit, in order to consolidate land patterns, ensure effective administration, improve resource management, maintain public values, access to BLM-administered lands, and promote community development.				
476.	Objective: No similar objective.	Objective: Acquire lands based on the principle of no net gain of BLM-administered land and that have the support of local communities.	Objective: Acquire lands or land rights that enhance resource values, provide for conservation easements, preservation of corridors, habitat for wildlife, and cultural resources.	Objective: Acquire lands or land rights that enhance resource values, and provide for conservation easements, preservation of corridors or habitat for wildlife, cultural resources, public access for recreation use or other uses, or to consolidate lands for more effective management.	
477.	Action: No similar action.	Action: Acquire lands based on the principle of no net gain of BLM-administered land and that have the support of local communities.	Action: Acquire lands utilizing the following criteria (these criteria are not considered all-inclusive but represents the major factors to be evaluated when considering acquisition actions): <ul style="list-style-type: none">• Private lands or interests in private lands to be acquired by BLM would be subject to consultation and coordination procedures with state, local city, and county officials before completion of the acquisition.• Private lands or interests in private lands to be acquired by BLM would provide access to BLM-administered lands, consolidate federal lands ownership patterns or otherwise serve to improve management of the BLM-administered lands, which contain important natural resources, cultural resources, or habitat, or serve other		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>public purposes.</p> <ul style="list-style-type: none"> Public resource values or concerns, including threatened, endangered, or BLM sensitive species habitat (including connectivity); riparian areas; floodplains and wetlands; fisheries; nesting or breeding habitat for game and nongame birds or animals; key big game seasonal habitat; wild horse and burro habitat; developed recreation and recreation access sites; municipal watersheds; energy and mineral potential; visual resources; cultural resources; paleontology; Native American Traditional Cultural Properties; cultural resource sites eligible for inclusion on the NRHP; wilderness and areas being studied for wilderness; and other statutory-authorized designations. Accessibility of land for public uses. Clear management opportunities (difficulty or cost of administration). Suitability and need for change in land ownership, for management, and use by other state and federal agencies. Lands acquired would be in fee simple title. Acquisition of split estate lands would be made on a case-by-case basis. The availability of funding to properly manage the acquired lands. The likelihood for establishing partnerships. <p>Acquisition of land and interest using funds authorized under the SNPLMA, or similar authorized funding sources, are completed for special purposes and require special management considerations to protect the resource values on these lands. The management issues for such acquisitions would be addressed throughout the acquisition process, beginning with its nomination to the administration of the acquisition. Following acquisition, before land use changes, a parcel-specific, activity level management plan and associated NEPA document would be prepared to address project management.</p>		
478.	Action: No similar action.	Action: Retain and acquire lands within Greater Sage-Grouse PGMAs. Consider exceptions when: <ul style="list-style-type: none"> Disposal and/or acquisitions of public 	Action: Retain and acquire lands within Greater Sage-Grouse PPMAs and PGMAs.		Action: Retain and acquire public ownership of Greater Sage-Grouse PPMAs and PGMAs. Consider exceptions when: <ul style="list-style-type: none"> Disposal and/or acquisitions of public

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>lands would allow for more contiguous federal ownership patterns within the Greater Sage-Grouse habitat area, or where a land tenure adjustment would result in a net gain in amount or quality of Greater Sage-Grouse habitat.</p> <ul style="list-style-type: none"> Lands that are acquired (exchange, purchase or easement) for Greater Sage-Grouse habitat are managed as Greater Sage-Grouse PPMA. <p>Where significant conservation actions could be achieved in Greater Sage-Grouse PPMAs, seek to acquire lands with intact subsurface mineral estate by donation, purchase, or exchange in order to best conserve, enhance, or restore Greater Sage-Grouse habitat.</p>			<p>lands would allow for more contiguous federal ownership patterns within the Greater Sage-Grouse habitat area, or where a land tenure adjustment would result in a net gain in amount or quality of Greater Sage-Grouse habitat.</p> <ul style="list-style-type: none"> Lands that are acquired (exchange, purchase or easement) for Greater Sage-Grouse habitat are managed as PPMA. <p>Where significant conservation actions could be achieved in Greater Sage-Grouse PPMAs, seek to acquire lands with intact subsurface mineral estate by donation, purchase, or exchange in order to best conserve, enhance, or restore Greater Sage-Grouse habitat.</p>
479.	Action: No similar action.	<p>Action: Consider for future acquisition from Washoe County the following parcels (also see Table 2-3):</p> <ul style="list-style-type: none"> Pah Rah Range/Northern Washoe Open Space [APN 076-251-08, 076-430-02, 076-440-03, 076-500-01, 076-530-11, 076-530-07, 076-510-02, 076-590-02, 076-570-05, 076-590-03, 061-060-54, 061-110-09]. Swan Lake [APN 080-671-08] 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Air Race Buffer [APN 079-332-36 and 079-332-37] • Hungry Valley-Eagle Canyon Open Space [APN 080-710-01] 			
480.	Action: No similar action.	Action: Manage lands acquired in a manner consistent with adjacent or nearby lands, or managed for the goals, objectives, and standards for which they were acquired.			
481.	Action: Retain BLM-administered lands within 100-year flood plain boundaries. Authorize development within 100-year flood plain only if consistent with existing federal, state, and local government restrictions.	Action: No similar action (addressed within acquisition criteria).			
482.	Action: Consolidate, by acquisition, land for crucial Lassen-Washoe deer winter range and migration corridors by acquiring private lands in this area.	Action: No similar action.			
483.	Action: Consolidate, by acquisition, land that is important as wildlife habitat in the Pine Nut Mountains.	Action: No similar action.			
484.	Action: Land exchanges will be done to block in the higher country in the Pine Nut Range and Jumbo allotment and to release land next to residential zones.	Action: No similar action.			
485.	Action: Acquire legal access to Faye Canyon, Bagley Valley, and the Hangman's Bridge area	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	near Markleeville in coordination with Forest Service. Leave primary roads open.				
486.	Action: Acquire or provide legal access through or around Big Canyon, Black Canyon, and Hardscrabble canyon to provide vehicular access for the administration of BLM-administered lands in the Virginia Mountains.	Action: No similar action.			
487.	Action: The BLM will work in support of Douglas County's and other organization's efforts to acquire conservation easements in the Carson Valley. The intent of this coordinated effort is to cooperatively acquire conservation easements on a sufficient number of acres in Carson Valley to protect existing agriculture operations and the important social and natural resource values associated with these lands. To this end, the BLM will acquire conservation easements on private properties in the Carson Valley from	Action: No similar action.	Action: Acquire conservation easements on private properties from willing sellers in accordance with the identified acquisition criteria.		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>willing sellers in accordance with the identified Acquisition Criteria for Conservation Easements.</p> <ul style="list-style-type: none"> • The land is an active agricultural operation. • The land is subject to imminent threat from development, and protection is in conformance with the Douglas County Master Plan. • The land is within the 100-year floodplain. • The land contains important wetlands or riparian wildlife habitat. • The agricultural character of the land enhances scenic values. • The landowner is willing to sell a recreational access easement on the property. • The land is of sufficient parcel size to be considered farmland. • The land contains important cultural or historic values that would be protected by 				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>the acquisition.</p> <ul style="list-style-type: none"> • The landowner is willing to discount the sale of the conservation easement to BLM. • The land has other unique values and acquisition would be in the public interest. 				
488.	<p>Action: Acquire environmentally sensitive lands or interests in environmentally sensitive lands elsewhere in Douglas County from willing sellers after consultation and coordination with County government and local organizations and individuals. The Acquisition Criteria for Conservation Easements:</p> <ul style="list-style-type: none"> • Lands or interests in lands will be acquired by the BLM on a willing buyer/willing seller basis only. • Private lands or interests in private lands to be acquired by the BLM will be subject to consultation and coordination procedures with Douglas County 	<p>Action: No similar action (addressed within acquisition criteria).</p>			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>officials prior to completion of the acquisition.</p> <ul style="list-style-type: none"> Private lands or interests in private lands to be considered for acquisition by the BLM will serve purposes consistent with provisions in the Douglas County Master Plan. Private lands or interests in private lands to be acquired by the BLM will a) provide access to BLM-administered lands, b) block up federal lands ownership patterns or otherwise serve to improve management of the BLM-administered lands, c) contain important natural resources, cultural resources, or habitat, or d) serve other public purposes. 				
489.	<p>Action: Private lands in the Southern Washoe County urban interface that are designated as desired open space in the Reno, Sparks, and Washoe</p>	<p>Action: No similar action.</p>			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	County Master Plans and the Washoe County Regional Open Space Plan will be considered for acquisition opportunities by the BLM. This includes the corridor of land on both sides of the Truckee River, east of Sparks. Acquisition opportunities may include acquisition of conservation easements or other interest in private lands.				
490.	<p>Action: Acquisitions in the Southern Washoe County urban interface must meet one or more of the following criteria:</p> <ul style="list-style-type: none"> • Facilitate access to BLM-administered lands and resources • Provide resource protection • Facilitate implementation of the RMP • Provide for a more manageable land ownership pattern • Maintain or enhance public recreational uses and open space values <p>In addition, the BLM will</p>	Action: No similar action (addressed within acquisition criteria).			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	focus acquisition efforts in this area on lands: <ul style="list-style-type: none">• with few or no man-made improvements;• not requiring substantial restoration efforts, except in certain circumstances when other entities can be involved as partners in the effort• with no known hazardous materials or contamination problems• with no noxious weed infestations that would present a long-term liability to the BLM				
491.	Action: Provide for legal public access to BLM-administered lands by retaining significant existing access and acquiring additional public access. Access acquisition opportunities to the Pah Rah Range, Petersen Mountain area, and the Jumbo area are given priority.	Action: No similar action.			
492.	Land Tenure Adjustments – Disposals				
493.	Objective: Make available for disposal those lands that have little or no resource value, that consolidate land patterns to ensure effective administration, that improve resource management, and that promote community and/or agricultural development. Access through disposals to other BLM-administered lands would be retained if warranted for administrative and/or public purposes.				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
494.	Action common to all: <ul style="list-style-type: none"> All land not specifically identified for disposal is classified for retention. Retain legal public access to BLM-administered lands across lands that are transferred to private or other ownership. 				
495.	Action: The following BLM-administered lands have been identified for disposal (179,700 acres; Figure 2-70): <ul style="list-style-type: none"> Alpine County (900 acres) Carson City (160 acres) Churchill County (76,700 acres) Douglas County (4,400 acres) Lyon County (49,500 acres) Mineral County (5,700 acres) Nye County (11,300 acres) Storey County (13,000 acres) Washoe County (18,000 acres) 	Action: The following BLM-administered lands have been identified for disposal (273,500 acres; Figure 2-71): <ul style="list-style-type: none"> Alpine County (30 acres) Carson City (200 acres) Churchill County (77,400 acres) Douglas County (5,700 acres) Lassen County (1,000 acres) Lyon County (143,100 acres) Mineral County (5,800 acres) Nye County (11,300 acres) Storey County (15,100 acres) Washoe County (13,700 acres) 	Action: No similar action.	Action: The following BLM-administered lands have been identified for disposal (332,500 acres; Figure 2-72): <ul style="list-style-type: none"> Alpine County (1,000 acres) Carson City (210 acres) Churchill County (77,400 acres) Douglas County (5,800 acres) Lassen County (1,000 acres) Lyon County (142,600 acres) Mineral County (11,600 acres) Nye County (11,300 acres) Storey County (21,900 acres) Washoe County (59,700 acres) 	Action: The following BLM-administered lands have been identified for disposal (267,200 acres; Figure 2-73): <ul style="list-style-type: none"> Alpine County (1,000 acres) Carson City (200 acres) Churchill County (76,900 acres) Douglas County (7,000 acres) Lassen County (1,000 acres) Lyon County (83,500 acres) Mineral County (5,800 acres) Nye County (11,300 acres) Storey County (20,800 acres) Washoe County (59,700 acres)
496.	Action: No similar action.	Action: Any land disposal must meet all of the following land disposal criteria, unless otherwise noted: <ul style="list-style-type: none"> All lands considered potentially suitable for sale must meet one or more of the criteria outlined in Section 203(a) of FLPMA and is identified by legal description in this document. An interest in land reserved to the US may be conveyed to the patent holder, pursuant to Section 203 (a) of FLPMA, if it is determined to be in the public interest. The land is designated as suitable for disposal in this Resource Management Plan. 			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> The land does not contain important wetlands or riparian wildlife habitat, other water resources, significant cultural resources or recreational values. Disposal of the land would not adversely impact the manageability of remaining BLM-administered lands. Disposal of the land would not adversely impact the public's access to remaining BLM-administered lands. The lands are not essential to candidate, listed or proposed threatened or endangered species or identified as priority fish and wildlife habitat. No BLM-administered lands that contain water improvements, such as guzzlers, would be disposed of, unless the buyer is willing to relocate the water improvement, at the buyer's sole and complete cost, to a location deemed suitable by BLM and NDOW. No lands that are classified as VRM Class II due the proximity of the National Historic Trails would be disposed of. Disposal of the land is deemed to be in the public's interest. 			
497.	Action: No similar action.	Action: Identify 400 acres of land available for disposal adjacent to Naval Air Station Fallon through modified competitive sale. The patent would have to have special stipulations in connection with low level development due to safety and other concerns with the proximity of the parcel to a Naval Air Station. Retain acres adjacent to Naval Air Station Fallon to protect federal investment in military housing facilities and to retain a public safety arc.	Action: Identify 0 acres of land for disposal adjacent to Naval Air Station Fallon until special legislation enacts the transfer to the jurisdiction of the Department of the Navy.	Action: Identify 400 acres of land available for disposal adjacent to Naval Air Station Fallon directly to the Department of the Navy for a safety arc, military housing facilities, and agricultural leasing. Ensure the disposal is in connection with acquiring Navy-controlled lands near the Greater Sand Mountain SRMA if possible.	Action: Same as Alternative D except: Pursue withdrawal if disposal or special legislation cannot be achieved.
498.	Action: No similar action.	Action: Reclamation-administered lands that are relinquished back to the BLM will be available for disposal (Figure 2-71).	Action: Reclamation-administered lands that are relinquished back to the BLM will be retained.	Action: No similar action.	Action: Reclamation-administered lands that are relinquished back to the BLM will be available for disposal (Figure 2-73).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
499.	Action: Designate approximately 70 acres to the Washoe Tribe or another federal agency for management on behalf of the Tribe (Figure 2-69).	Action: No similar action.		Action: Based on Congressional approval, the following lands would be eligible for transfer to the BIA (Figure 2-72): <ul style="list-style-type: none"> Pyramid Lake Paiute Tribe (24,100 acres) Reno-Sparks Indian Colony (14,700 acres) Washoe Tribe of Nevada and California (70 acres) 	Action: Based on Congressional approval, the following lands would be eligible for transfer to the BIA (Figure 2-73): <ul style="list-style-type: none"> Pyramid Lake Paiute Tribe (26,900 acres) Reno-Sparks Indian Colony (14,700 acres) Washoe Tribe of Nevada and California (70 acres)
500.	Action: Retain legal public access to BLM-administered lands across lands that are transferred from the BLM to private or other ownership.	Action: Same as Alternative A except: <ul style="list-style-type: none"> Acquire on a case-by-case basis when legal access is desirable for resource use/development. 	Action: Same as Alternative A except: <ul style="list-style-type: none"> Acquire on a case-by-case basis when legal access is desirable for resource protection. 	Action: Same as Alternative A except: <ul style="list-style-type: none"> Acquire on a case-by-case basis when legal access is desirable to manage the impact of proximity to dense population. 	Action: Same as Alternative A except: <ul style="list-style-type: none"> Acquire on a case-by-case basis, balancing the needs of the public and resource protection in consideration for retention of legal access.
501.	Action: Guarantee public access to the following fishable waters in case of BLM-administered land disposal: <ul style="list-style-type: none"> Jumbo Reservoir (Reservoir Breached) Truckee River East Fork Carson River Carson River 	Action: As a condition of land transfer or disposal, retain public access through an easement to fishable waters in the following areas: <ul style="list-style-type: none"> Truckee River East Fork Carson River Carson River West Walker River East Walker River 			
502.	Action: No similar action.	Action: Recreation & Public Purpose leases	Action: No similar action (no lands are identified for	Action: Same as Alternative B.	Action: Recreation & Public Purpose leases would only

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		would be issued on any lands determined suitable under the Act.	disposal).		be issued on lands that have been identified as suitable for disposal (Figure 2-73).
503.	Action: Designate lands for use by state and local governments for recreational purposes through the Recreational & Public Purpose Act (Figure 2-70). <ul style="list-style-type: none">• Washoe County (6,400 acres)• Alpine County (900 acres)• Douglas County (70 acres)	Action: Do not designate any land for disposal to only state and local government through the Recreation and Public Purposes Act.	Action: No similar action (no lands are identified for disposal).	Action: Designate 7,370 acres for disposal to state and local government through the Recreation and Public Purposes Act as outlined in Alternative A. Classify the same acres under Section 7 of the Taylor Grazing Act for Recreation & Public Purpose sales and leases (Figures 2-72 and 2-73).	
504.	Land Tenure Adjustments – Trespasses				
505.	Objective: No similar objective.	Objective: Use appropriate procedures to resolve unauthorized use or occupancy to protect sensitive resources where required.	Objective: Eliminate or remove unauthorized uses or occupancies to protect all resources.	Objective: Use appropriate procedures to resolve unauthorized use or occupancy on a case-by-case basis.	
506.	Action: Sell small parcels of BLM-administered lands in Douglas County on which portions of structures or facilities have been constructed in trespass. The Sale Criteria for Small Parcel Sales presented below will be used to determine whether or not the parcel should be sold to the	Action: Resolve unauthorized uses or occupancies through land disposal, leases, ROWs, cleanup crews, or law enforcement on a case-by-case basis. Give higher priority to those trespasses causing significant resource damage.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>landowner whose property has been found to be in trespass. The Sale Criteria for Small Parcel Sales:</p> <ul style="list-style-type: none"> • The trespass situation has been created in a clearly unintentional manner. • Portions of residential dwellings, commercial buildings, or other significant structures must have existed on the BLM-administered lands to be sold prior to approval of this proposed RMP. • The BLM has made the determination that unauthorized structures cannot be practically removed from BLM-administered lands. • BLM-administered lands to be sold to resolve trespass violations with an individual landowner are very small and generally less than 1 acre in size. <p>This action does not meet current policy as written,</p>				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	as disposal parcels must be specifically identified in a LUP (not generally, as above) by legal land description or a map. Thus, the decision was determined unsuitable after the plan amendment was enacted.				
507.	Land Tenure Adjustments – Withdrawals				
508.	Action common to all: <ul style="list-style-type: none"> Existing and proposed withdrawals are outlined in Appendix F, Existing and Proposed Land Withdrawals. Existing withdrawals would continue to be reviewed on a periodic basis and may be recommended for revocation according to the FLPMA. Revoked, relinquished, or expired withdrawal lands would be in a manner consistent with adjacent or nearby lands. 				
509.	Objective: Review new withdrawal proposals on a case-by-case basis, where resource values or agency investments are best protected by withdrawals. Lands proposed to be withdrawn will be the minimum area required for the intended use and where applicable alternative prescriptions (i.e., the use of ROWs, leases, permits, or cooperative agreements) are inadequate to protect the resource values.	Objective: Withdraw BLM-administered lands from the appropriate land laws only after consideration of the resources to be protected and the subsequent impacts on public use.			
510.	Action: Termination of Reclamation withdrawals along the Truckee River in the Southern Washoe	Action: Pursue withdrawal revocation of Reclamation-administered withdrawn land no longer needed for the Newlands or other Reclamation projects.			Action: Same as Alternative B, except the decision to open or close lands to some or all of the general land and

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	County urban interface that are no longer needed for Newlands Project purposes will be pursued. Unless specifically identified for disposal, lands no longer under reclamation withdrawal will be managed by the BLM for access, recreation, and riparian restoration opportunities.				mining laws would be determined on a case-by-case basis.
511.	Action: No similar action.	Action: Based on Congressional approval, lands identified would be considered for withdrawal to the US DOD (Marine Corps Mountain Warfare Training Center) for housing and recreational facilities (Figure 2-26).	Action: No similar action.	Action: Based on Congressional approval, lands identified would be considered for withdrawal to the US DOD (Marine Corps Mountain Warfare Training Center) for housing and recreational facilities. (Figures 2-28 and 2-29).	
512.	Action: Pursue revocation and restoration to the operation of the BLM-administered land laws and general mining laws, Reclamation and BLM-administered land withdrawals located along the Snowshoe Thompson Ditch encumbering 80 acres located in the SE¼NE¼, NE¼SE¼, T. 11 N., R. 19 E. of Section 25, T. 11 N., R. 19 E. Upon	Action: No similar action (addressed within previous action).			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	completion of the revocation and restoration process, the land will be managed by the BLM in a manner consistent with adjacent lands located within the Indian Creek Recreation Lands boundary.				
513.	Land Use Authorizations				
514.	Goal: Meet public needs for use authorizations such as ROWs, leases, and permits, while minimizing adverse impacts on other resources.				
515.	Actions common to all: <ul style="list-style-type: none"> • Future utility corridor and facility proposals on BLM-administered lands will be consistent with Regional/County Master Plans, Nevada State statutes, and the West-wide Energy Corridor Programmatic EIS and settlement agreement. • Continue to manage authorized ROWs, including 440,000 acres within utility corridors (Figure 2-74). • Encourage new transmission corridors and facilities (60 kilovolts or larger) proposed on BLM-administered lands to utilize existing corridors and underground components in visually sensitive areas. Local government-designated natural, visual, and cultural resources, and wildlife habitat important to the community will be major considerations in analyzing utility proposals. • Corridors would be 2 miles wide to provide opportunities for multiple transmission facilities and selection of optimal routes within. Corridor widths would be adjusted to encompass existing linear ROW and the West-wide Energy Corridor where appropriate. • WSAs are managed as ROW exclusion. • Religious monuments (e.g., crosses) will not be authorized. • BLM will encourage ROW grants for public trails with local governments to encourage regional trail connectivity for non-motorized uses. 				
516.	Objective: No similar objective.	Objective: Issue land use authorizations to facilitate post-operation reuse and encourage sustainable development.			
517.	Action: No similar action.	Action: Issue land use authorizations to facilitate post-operation reuse and encourage sustainable development. Consider the following criteria prior to authorizing reuse proposals: <ul style="list-style-type: none"> • Percentage of reuse 	Action: Issue land use authorizations to facilitate post-operation reuse and encourage sustainable development. Consider the following criteria prior to authorizing reuse proposals: <ul style="list-style-type: none"> • Percentage of reuse contribution to economy 	Action: Same as Alternative B except the focus of lands for reuse would be within the urban interface.	Action: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>contribution to economy compared with existing activity or other reasonably foreseeable use of the site.</p> <ul style="list-style-type: none"> • Type of reuse project. • Evaluation of the value of the land after reuse closure. Following reuse, land should provide higher economic value than if land is closed and reclaimed. • Compatibility of reuse with adjacent and any other on-site land uses. • Reuse doesn't conflict with existing valid rights. • There is a local community group or advisory group established for new reuse proposals and closures. • Lands have existing disturbance and infrastructure in place available for reuse. • Economic viability and stability of reuse proponent. 	<p>compared with existing activity or other reasonably foreseeable use of the site.</p> <ul style="list-style-type: none"> • Type of reuse project. • Evaluation of the value of the land after reuse closure. Following reuse, land should provide higher resource value than if land is closed and reclaimed. • Compatibility of reuse with adjacent and any other on-site land uses. • Reuse does not conflict with existing valid rights. • There is a local community group or advisory group established for new reuse proposals and closures. • Lands have existing disturbance and infrastructure in place available for reuse. • Economic viability and stability of reuse proponent. • Responsibilities for liabilities transfer of liability and indemnification of US. • Reuse should be 		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> Responsibilities for liabilities, transfer of liability and indemnification of US. Ability to provide on-going well-being of community. Reuse should fit with the long-term plan for local communities. Reuse should be compatible with the available workforce and contribute to retaining a skilled workforce. Reuse should allow for full access for other uses, as appropriate. Reuse should be compatible with other management objectives and actions. 	compatible with other management objectives and actions.		
518.	Action: No similar action (Figure 2-75). Manage 564,100 acres as ROW exclusion areas.	Action: Manage the following areas as ROW exclusion (580,000 acres; Figure 2-76): <ul style="list-style-type: none"> Stewart Valley Paleontological ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) 	Action: Manage the following areas as ROW exclusion (2,675,800 acres; Figure 2-77): <ul style="list-style-type: none"> ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District 	Action: Manage the following areas as ROW exclusion (564,100 acres; Figure 2-78): <ul style="list-style-type: none"> East Fork Carson River WSR Study Segment I (see <i>Wild and Scenic Rivers</i>) Priority watersheds containing municipal water supplies (1,000-foot buffer of 	Action: Manage the following areas as ROW exclusion (1,155,400 acres; Figure 2-79): <ul style="list-style-type: none"> Virginia City National Historic Landmark District (for wind energy only) (see <i>Cultural Resources</i>) ACECs (see <i>Special Designations, Areas of Critical Environmental</i>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> ○ Clan Alpine Greater Sage-Grouse (for linear ROWs) ○ Desatoya Greater Sage-Grouse ○ Lassen Red Rock Scenic ○ Namazii Wunu Cultural ○ Pah Rah High Basin Petroglyph ○ Pine Nut Bi-State Sage-Grouse ○ Ruhenstroth Paleontological ○ Sand Springs Desert Study Area ○ Tagim aša Cultural ○ Virginia City National Landmark Historic District (for wind energy only) ○ Virginia Mountains Greater Sage-Grouse ● East Fork Carson River WSR Study Segment I (see <i>Wild and Scenic Rivers</i>) ● Active Raptor Nest sites (0.50-mile buffer; see <i>Fish and Wildlife</i>) ● The Grimes Point rock art site ● Hidden Cave (0.5-mile buffer; see <i>Caves and Cave</i> 	wellhead; see <i>Soil and Water Resources</i>)	<p>Concern):</p> <ul style="list-style-type: none"> ○ A portion of Fox Peak Cultural, which includes area overlapping with Job Peak WSA (43,300 acres) and Dynamite Cave (300-foot buffer; see <i>Caves and Cave Resources</i>) ○ Pah Rah High Basin Petroglyph ○ Ruhenstroth Paleontological ○ Stewart Valley Paleontological ● East Fork Carson River WSR Study Segment I (see <i>Wild and Scenic Rivers</i>) ● Active Raptor Nest sites (0.50-mile buffer; see <i>Fish and Wildlife</i>) ● Hidden Cave (300-foot buffer; see <i>Caves and Cave Resources</i>) ● Priority watersheds containing municipal water supplies (1,000-foot buffer of wellhead; see <i>Soil and Water Resources</i>) ● Greater Sage-Grouse PPMA (see <i>Special Status Species, Greater Sage-</i>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<p>Resources)</p> <ul style="list-style-type: none"> • Dynamite Cave (0.5-mile buffer; see <i>Caves and Cave Resources</i>) • Important Bird Areas • Priority watersheds (see <i>Soil and Water Resources</i>) • 200 feet of riparian/wetland areas • 500 feet of springs (see <i>Vegetation, Riparian Wetlands</i>) • Fish and wildlife priority habitat (500-foot buffer; see <i>Fish and Wildlife</i>) • Greater Sage-Grouse PPMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • Backcountry Wildlife Conservation Areas (see <i>Backcountry Wildlife Conservation Areas</i>) 		Grouse)
519.	Action: No similar action.	<p>Action: Manage the following areas as ROW avoidance (1,195,800 acres; Figure 2-80):</p> <ul style="list-style-type: none"> • Caves (see <i>Caves and Cave Resources</i>): <ul style="list-style-type: none"> ○ Within 0.25 mile of Dynamite Cave ○ Within 500 feet of Hidden Cave • Fish and wildlife 	<p>Action: Manage the following areas as ROW avoidance (369,300 acres; Figure 2-81):</p> <ul style="list-style-type: none"> • Within 2.5 miles of either side of centerline of historic roads and trails that are eligible for the NRHP but are not Congressionally designated (see <i>Cultural</i> 	<p>Action: Manage the following areas as ROW avoidance (1,226,100 acres; Figure 2-82):</p> <ul style="list-style-type: none"> • Within 200 feet of Riparian and wetland areas (see <i>Vegetation, Riparian Wetlands</i>) • Fish and wildlife priority habitats, including a 100-foot 	<p>Action: Manage the following areas as ROW avoidance (1,448,200 acres; Figure 2-83):</p> <ul style="list-style-type: none"> • Within 200 feet Riparian and wetland areas (see <i>Vegetation, Riparian Wetlands</i>) • Fish and wildlife priority habitats, including a 500-foot buffer for lentic and

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>priority habitats, including a 100-foot buffer for lentic and lotic habitats occupied by federally listed aquatic and semi-aquatic species (see <i>Fish and Wildlife</i>)</p> <ul style="list-style-type: none"> • Important Bird Areas (see <i>Fish and Wildlife, Migratory Birds</i>) • Within 0.25 mile of active raptor nests (including special status species; see <i>Fish and Wildlife, Raptors</i>) • Greater Sage-Grouse PPMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • Within 0.25 mile of either side of centerline of historic roads and trails that are eligible for the NRHP but are not Congressionally designated (see <i>Cultural Resources</i>) • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Black Mountain/Pistone 	<p>Resources)</p> <ul style="list-style-type: none"> • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Grimes Point Archaeological District ○ Incandescent Rocks Scenic ○ Virginia City National Landmark Historic District (except exclusion for renewable energy) • NHT corridors (2.5-mile buffer on either side of centerline; see <i>National Historic Trails</i>) • Suitable VSR segments (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>): <ul style="list-style-type: none"> ○ East Fork Carson River Segment 2 ○ East Fork Carson River Segment 3 • Within 1-mile radius of known human burial (see <i>Tribal Interests</i>) • Lands proposed for protection of wilderness characteristics 	<p>buffer for lentic and lotic habitats occupied by federally listed aquatic and semi-aquatic species (see <i>Fish and Wildlife</i>)</p> <ul style="list-style-type: none"> • Important Bird Areas (see <i>Fish and Wildlife, Migratory Birds</i>) • Within 0.25 mile of active raptor nests (including special status species; see <i>Fish and Wildlife, Raptors</i>) • Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • Within 0.25 mile of either side of centerline of historic roads and trails that are eligible for the NRHP but are not Congressionally designated (see <i>Cultural Resources</i>) • ACECs (see <i>Special Designations, Areas of Critical Environmental Concern</i>): <ul style="list-style-type: none"> ○ Black Mountain/Pistone 	<p>lotic habitats occupied by federally listed aquatic and semi-aquatic species (see <i>Fish and Wildlife</i>)</p> <ul style="list-style-type: none"> • Important Bird Areas (see <i>Fish and Wildlife, Migratory Birds</i>) • Greater Sage-Grouse PPMA and PGMA (see <i>Special Status Species, Greater Sage-Grouse</i>) • Within 1 mile of either side of centerline of historic roads and trails that are eligible for the NRHP but are not Congressionally designated (see <i>Cultural Resources</i>) • Pistone site (see <i>Cultural Resources</i>) Virginia City National Historic Landmark District (see <i>Cultural Resources</i>) • Wyemaha Archaeological District (see <i>Cultural Resources</i>) • Grimes Point Archaeological District ACEC (see <i>Special Designations, Areas of Critical Environmental Concern</i>) • NHT corridors (1-mile buffer on either side of

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> Archaeological District <ul style="list-style-type: none"> ○ Grimes Point Archaeological District ○ Namazii Wunu Cultural ○ Pah Rah High Basin Petroglyph ○ Ruhenstroth Paleontological ○ Tagim aša Cultural • NHT corridors (0.25-mile buffer on either side of centerline; see <i>National Historic Trails</i>) • Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 		<ul style="list-style-type: none"> Archaeological District <ul style="list-style-type: none"> ○ Grimes Point Archaeological District ○ Pah Rah High Basin Petroglyph ○ Ruhenstroth Paleontological ○ Tagim aša Cultural • NHT corridors (0.25-mile buffer on either side of centerline; see <i>National Historic Trails</i>) • Suitable WSR segments (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>): <ul style="list-style-type: none"> ○ East Fork Carson River Segment 2 ○ East Fork Carson River Segment 3 • Department of Defense Coordination Area (see <i>Public Health and Safety</i>) 	<ul style="list-style-type: none"> centerline; see <i>National Historic Trails</i>) • Suitable WSR segments (within 0.25 mile of either side of the ordinary high water mark; see <i>Wild and Scenic Rivers</i>): <ul style="list-style-type: none"> ○ East Fork Carson River Segment 2 ○ East Fork Carson River Segment 3 • Lands proposed for protection of wilderness characteristics • Department of Defense Coordination Area (see <i>Public Health and Safety</i>)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
520.	Action: Limit lands projects (besides disposals) to 50 percent or less reduction in High Erosion Susceptibility Areas.	Action: No similar action.			
521.	Action: No similar action.	Action: Encourage consolidation and colocation of ROWs within existing disturbance areas in fish and wildlife priority habitats.	Action: Require consolidation and colocation of ROWs within existing disturbance areas in fish and wildlife priority habitats to avoid further fragmentation.	Action: In the urban interface zone, encourage consolidation and colocation of ROWs within existing disturbance areas in fish and wildlife priority habitats. Outside the urban interface zone, require consolidation and colocation of ROWs within existing disturbance areas.	Action: Where feasible, consolidate and collocate ROWs within existing disturbance areas in fish and wildlife priority habitats to avoid further fragmentation.
522.	Action: No similar action.	Action: Apply appropriate Standard Operating Procedures and BMPs to mitigate disturbance from land use authorization activities in the following areas (dependent on seasonal and site-specific conditions): <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 – June 15 • Mule deer fawning areas: June 1 – June 30 • Mule deer migration 	Action: Prohibit disturbance from land use authorization activities in the following areas (dependent on seasonal and site-specific conditions): <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 – June 15 • Mule deer fawning areas: June 1 – June 30 • Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 • Bighorn sheep lambing 	Action: Within the urban interface zone, prohibit disturbance from land use authorization activities in the following areas (dependent on seasonal and site-specific conditions). Outside of the urban interface zone, apply appropriate Standard Operating Procedures and BMPs to mitigate disturbance from land use	Action: Prohibit disturbance from land use authorization activities in the following areas (dependent on seasonal and site-specific conditions) unless appropriate Standard Operating Procedures and BMPs are deemed sufficient by the BLM Authorized Officer: <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 – June 15 • Mule deer fawning areas: June 1 – June 30

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>and movement corridors: March 1 to May 15 and October 1 to November 30</p> <ul style="list-style-type: none"> • Bighorn sheep lambing areas: February 1 – May 15 • Elk calving areas (should elk expand their range further): May 15 – June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: January 1 – April 15 • Nesting migratory birds, with an emphasis on special status species and birds of conservation concern: May 15 - July 15 	<p>areas: February 1 – May 15</p> <ul style="list-style-type: none"> • Elk calving areas (should elk expand their range further): May 15 – June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: November 1 – May 1 • Big game migration/ movement corridors • Crucial habitat areas • Nesting migratory birds, with an emphasis on special status species and birds of conservation concern: May 1 - July 30 	<p>authorization activities in the following areas (dependent on seasonal and site-specific conditions):</p> <ul style="list-style-type: none"> • Pronghorn kidding areas: May 15 – June 15 • Mule deer fawning areas: June 1 – June 30 • Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 • Bighorn sheep lambing areas: February 1 – May 15 • Elk calving areas (should elk expand their range further): May 15 – June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: November 1 – May 1 • Nesting migratory birds, with an emphasis on special status species and birds of conservation concern: May 15 - July 15 	<ul style="list-style-type: none"> • Mule deer migration and movement corridors: March 1 to May 15 and October 1 to November 30 • Bighorn sheep lambing areas: February 1 – May 15 • Elk calving areas: May 15 – June 15 • Mule deer, elk, bighorn sheep, and pronghorn antelope winter range areas: December 1 – May 1 • Big game migration/ movement corridors • Crucial habitat areas • Nesting migratory birds, with an emphasis on special status species and birds of conservation concern: May 15 - July 15

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
523.	<p>Action: Allow new communication site development only when expansion of an existing site is not a reasonable alternative in the Reno area.</p> <p><u>Pyramid Planning Unit:</u> CS1 Warm Springs Mountain CS2 Virginia Peak CS3 TV Peak (Red Hill) CS4 Peavine Mountain CS5 Beacon Peak CS6 McClellan Peak</p> <p><u>Pine Nut Planning Unit:</u> CS1 McClellan Peak CS2 Como Pass CS3 Rawe Peak CS4 Pinyon Hill</p>	<p>Action: Allow new communication site development only when expansion of an existing site is not a reasonable alternative. Authorize new communication use facilities at an existing site only when it is not technically feasible or reasonable to collocate within/upon existing facilities. See Figure 2-84 for existing sites.</p>			
524.	<p>Action: No similar action.</p>	<p>Action: Consider developing site plans for communication sites that present management challenges such as one or more of the following:</p> <ul style="list-style-type: none"> • Multiple users • No legal access • Trespass facilities • No land use authorization for power • Land status concerns 	<p>Action: Develop and update site plans for all existing and new communication sites.</p>	<p>Action: Same as Alternative B except: Require a site plan for sites within the urban interface.</p>	<p>Action: Same as Alternative B.</p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Unmitigated visual resource management issues • Unreported communication uses • Abandoned facilities • Antiquated technologies • Waste/trash • Noxious weeds 			
525.	Action: Applications for ROWs for communication sites, including all military electronic warfare sites, will be considered in the area identified as permitted on the map (page 4 of the Central Nevada Communication Sites Modified Plan Amendment [1998]).	Action: No similar action.			
526.	Action: Facilitate communication site processing on certain BLM-administered land in central Nevada and minimize surface disturbance in the same area by grouping future communication facilities at locations where existing facilities occur, access is reasonably available, terrain is appropriate for communication facility	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	needs, and other resource values are limited. These preferred locations are Fairview Peak, New Pass, Mount Moses, the north end of the Fish Creek Mountains, and Mount Lewis.				
527.	Action: With proper justification, continue to provide for the location of future civilian and military communication sites (including telemetry sites and threat emitters) on more than 4 million acres of central Nevada. Proper justification includes physical and economic factors.	Action: No similar action.			
528.	Action: Encourage additional Navy electronic warfare site development in the currently heavily used Dixie/Fairview Valleys Bell Flat/Middlegate area.	Action: No similar action.			
529.	Action: Protect important natural, recreation, wilderness, wildlife, watershed, visual, and Native American values in certain BLM-administered lands in central Nevada by prohibiting future communication and	Action: No similar action.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	electronic warfare sites of all types in the most sensitive areas. These include portions of the Clan Alpine, Desatoya, Stillwater, Gabbs Valley and Simpson Park Mountain Ranges, Bald Mountain, and the Sand Mountain and Hickison Petroglyph recreation areas.				
530.	Renewable Energy (Wind, Solar, Biomass)				
531.	Goal: Encourage development of renewable energy in a timely manner to meet national, regional, and local needs consistent with the objectives for other land uses. (see <i>Geology and Minerals, Fluid Minerals</i> for decisions related to geothermal resources)				
532.	Objective: No similar objective.	Objective: Grant land use authorizations for wind and solar energy, biomass monitoring and development.	Objective: Grant land use authorizations for wind and solar energy, biomass monitoring and development while protecting and preserving resources.		
533.	<p>Action: Manage 905,900 acres* as variance areas for utility-scale solar development (Figure 2-85). See Table A-2 in the ROD for the Solar Energy Development Programmatic EIS (BLM 2012) for a list of exclusion areas.</p> <p><i>*Acres are estimated based on current data but could change based on the presence or absence of</i></p>	<p>Action: Manage 773,400 acres* as variance areas for utility-scale solar development (Figure 2-86). See Table A-2 in the ROD for the Solar Energy Development Programmatic EIS (BLM 2012) for a list of exclusion areas.</p> <p><i>*Acres are estimated based on current data but could change based on the presence or absence of</i></p>	<p>Action: Manage 578,400 acres* as variance areas for utility-scale solar development (Figure 2-87). See Table A-2 in the ROD for the Solar Energy Development Programmatic EIS (BLM 2012) for a list of exclusion areas.</p> <p><i>*Acres are estimated based on current data but could change based on the presence or absence of implicit criteria described in the Solar</i></p>	<p>Action: Manage 672,100 acres* as variance areas for utility-scale solar development (Figure 2-88). See Table A-2 in the ROD for the Solar Energy Development Programmatic EIS (BLM 2012) for a list of exclusion areas.</p> <p><i>*Acres are estimated based on current data but could change based on the</i></p>	<p>Action: Manage 629,900 acres* as variance areas for utility-scale solar development (Figure 2-89). See Table A-2 in the ROD for the Solar Energy Development Programmatic EIS (BLM 2012) for a list of exclusion areas.</p> <p><i>*Acres are estimated based on current data but could change based on the presence or absence of implicit criteria described in the Solar</i></p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<i>implicit criteria described in the Solar Programmatic EIS.</i>	<i>implicit criteria described in the Solar Programmatic EIS.</i>	<i>Programmatic EIS.</i>	<i>presence or absence of implicit criteria described in the Solar Programmatic EIS.</i>	<i>Programmatic EIS.</i>
534.	Action: No similar action.	Action: Manage 1,220,200 acres as ROW avoidance areas for wind energy projects (Figure 2-90) to protect sensitive resources. The granting of ROWs for wind energy projects in avoidance areas would require special stipulations to mitigate any impact on resources on: <ul style="list-style-type: none"> • Lands managed as VRM Class I or Class II. • Lands with a Wind Power Classification of 3-7. 	Action: No similar action.	Action: Manage 1,228,100 acres as ROW avoidance areas for wind energy projects (Figure 2-92) to protect sensitive resources. The granting of ROWs for wind energy projects in avoidance areas would require special stipulations to mitigate any impact on resources on: <ul style="list-style-type: none"> • Lands managed as VRM Class I or Class II. • Lands with a Wind Power Classification of 3-7. 	Action: Manage 956,900 acres as ROW avoidance areas for wind energy projects (Figure 2-93) to protect sensitive resources. The granting of ROWs for wind energy projects in avoidance areas would require special stipulations to mitigate any impact on resources on: <ul style="list-style-type: none"> • Lands managed as VRM Class I or Class II. • Lands with a Wind Power Classification of 3-7. Manage PPMAs and PGMAAs as ROW exclusion for utility-scale commercial solar and wind energy facilities (i.e., facilities that generate 20 MW or more).
535.	Action: No similar action.	Action: No similar action.	Action: Manage 2,073,200 acres as ROW exclusion areas for wind energy projects (Figure 2-91) to protect sensitive resources. Resources that will be managed as ROW exclusion areas for wind energy	Action: No similar action.	Action: Manage 629,900 acres as ROW exclusion areas for wind energy projects (Figure 2-93) to protect sensitive resources. Resources that will be managed as ROW exclusion areas for wind energy

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			projects include: <ul style="list-style-type: none">• Lands managed as VRM Class I or Class II• Lands with a Wind Power Classification of 3-7• Manage PPMAs and PGMAs as ROW exclusion for utility-scale commercial solar and wind energy facilities (i.e., facilities that generate 20 MW or more)• Lands proposed for protection of wilderness characteristics• Virginia City National Landmark Historic District ACEC (Figure 2-91; see Special Designations, Areas of Critical Environmental Concern)		projects include: <ul style="list-style-type: none">• Virginia City National Landmark Historic District ACEC (Figure 2-93; see <i>Cultural Resources</i>).• Manage PPMAs and PGMAs as ROW exclusion for utility-scale commercial solar and wind energy facilities (i.e., facilities that generate 20 MW or more).
536.	Action: No similar action.	Action: The Federal Aviation Administration (FAA),Military, and local government agencies would be consulted for the development of solar and wind projects.			
537.	Areas of Critical Environmental Concern				
538.	Goal: Manage areas as ACECs where special management attention is required to protect and prevent irreparable damage to important biological, historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards.				
539.	Action common to all: In those areas where ACECs overlap with WSAs, the WSA management prescriptions as stipulated in BLM Manual 6330, Management of Wilderness Study Areas, would take precedence.				
540.	Summary of Areas of Critical Environmental Concern				
541.	Objectives: Under Alternative A, continue present management	Objectives: Provide for special management attention to protect and	Objectives: Provide for special management attention to protect and prevent	Objectives: Provide for special management attention to protect and	Objectives: Provide for special management attention to protect and

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	actions based on current LUP decisions, policy, and regulations.	prevent irreparable damage to important biological, historic, cultural and scenic values, fish and wildlife resources or other natural systems or processes or to protect human life and safety from natural hazards in a manner that emphasizes resource use and economic development.	irreparable damage to important biological, historic, cultural and scenic values, fish and wildlife resources or other natural systems or processes or to protect human life and safety from natural hazards in a manner that preserves and protects the identified resource(s) above other management considerations.	prevent irreparable damage to important biological, historic, cultural and scenic values, fish and wildlife resources or other natural systems or processes or to protect human life and safety from natural hazards in a manner that provides for management of multiple resource use and user conflicts in areas of higher population density near the urban interface.	prevent irreparable damage to important biological, historic, cultural and scenic values, fish and wildlife resources or other natural systems or processes or to protect human life and safety from natural hazards in a manner that balances resource protection with multiple use management decisions.
542.	<p>Summary: The following designated ACECs are managed for the protection of the identified relevance and importance values (21,800 acres; Figure 2-94):</p> <ul style="list-style-type: none"> • Carson wandering skipper ACEC (330 acres) • Incandescent Rocks Scenic ACEC (1,100 acres) • Pah Rah High Basin (Dry Lakes), Petroglyph District ACEC (3,900 acres) • Steamboat Hot Springs 	<p>Summary: Retain or establish the following areas as ACECs for the protection of the identified relevance and importance values (371,170 acres; Figure 2-95):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> • Incandescent Rocks Scenic ACEC (1,100 acres) • Pah Rah High Basin Petroglyph ACEC (5,300 acres) • Stewart Valley Paleontological ACEC 	<p>Summary: Retain or establish the following areas as ACECs for the protection of the identified relevance and importance values (786,270 acres; Figure 2-96):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> • Carson wandering skipper ACEC (330 acres) • Incandescent Rocks Scenic ACEC (1,100 acres) • Pah Rah High Basin Petroglyph ACEC (5,300 acres) • Stewart Valley Paleontological ACEC 	<p>Summary: Retain or establish the following areas as ACECs for the protection of the identified relevance and importance values (180,000 acres; Figure 2-97):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> • Incandescent Rocks Scenic ACEC (1,100 acres) • Pah Rah High Basin Petroglyph ACEC (5,300 acres) • Virginia Range Williams Combleaf 	<p>Summary: Retain or establish the following areas as ACECs for the protection of the identified relevance and importance values (82,770 acres; Figure 2-98):</p> <p><u>Existing:</u></p> <ul style="list-style-type: none"> • Incandescent Rocks Scenic ACEC (1,100 acres) • Pah Rah High Basin Petroglyph ACEC (5,300 acres) • Stewart Valley Paleontological ACEC (15,900 acres) • Virginia Range Williams

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>Geyser Basin ACEC (40 acres)</p> <ul style="list-style-type: none"> Stewart Valley Fossil Site ACEC (15,900 acres) Virginia Range Williams Combleaf Habitat Area ACEC (470 acres) 	<p>(15,900 acres)</p> <ul style="list-style-type: none"> Virginia Range Williams Combleaf Botanical ACEC (470 acres) <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District ACEC (3,400 acres) Churchill Narrows Buckwheat Botanical ACEC (6,600 acres) Fox Peak Cultural ACEC (48,400 acres) Greater Sand Mountain ACEC (17,000 acres) Grimes Point Archaeological District ACEC (15,900 acres) Namazii Wunu Cultural ACEC (158,300 acres) Ruhenstroth Paleontological ACEC (2,300 acres) Tagim aša Cultural ACEC (81,800 acres) Virginia City National Landmark Historic District ACEC (14,700 acres) 	<p>(15,900 acres)</p> <ul style="list-style-type: none"> Virginia Range Williams Combleaf Botanical ACEC (470 acres) <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District ACEC (3,400 acres) Churchill Narrows Buckwheat Botanical ACEC (6,600 acres) Clan Alpine Greater Sage-Grouse ACEC (98,400 acres) Desatoya Greater Sage-Grouse ACEC (105,100 acres) Dixie Valley Toad ACEC (410 acres) Fox Peak Cultural ACEC (48,400 acres) Greater Sand Mountain ACEC (17,000 acres) Grimes Point Archaeological District ACEC (15,900 acres) Lassen Red Rock Scenic ACEC (800 acres) Namazii Wunu Cultural ACEC (158,300 acres) Pine Nut Bi-State Sage-Grouse ACEC (100,400 acres) 	<p>Botanical ACEC (470 acres)</p> <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Black Mountain/Pistone Archaeological District ACEC (3,100 acres) Churchill Narrows Buckwheat Botanical ACEC (6,600 acres) Fox Peak Cultural ACEC (48,400 acres) Grimes Point Archaeological District ACEC (15,900 acres) Pine Nut Mountains Williams Combleaf Botanical ACEC (330 acres) Ruhenstroth Paleontological ACEC (2,300 acres) Tagim aša Cultural ACEC (81,800 acres) Virginia City National Landmark Historic District ACEC (14,700 acres) 	<p>Combleaf Botanical ACEC (470 acres)</p> <p><u>Proposed:</u></p> <ul style="list-style-type: none"> Churchill Narrows Buckwheat Botanical ACEC (6,600 acres) Fox Peak Cultural ACEC (49,000 acres) Grimes Point Archaeological District ACEC (2,100 acres) Ruhenstroth Paleontological ACEC (2,300 acres)

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Pine Nut Mountains Williams Combleaf Botanical ACEC (330 acres) • Ruhenstroth Paleontological ACEC (2,300 acres) • Sand Springs Desert Study Area ACEC (50 acres) • Steamboat Buckwheat Botanical ACEC (80 acres) • Tagim aša Cultural ACEC (81,800 acres) • Virginia City National Landmark Historic District ACEC (14,700 acres) • Virginia Mountains Greater Sage-Grouse ACEC (109,200 acres) 		
543.	Proposed Black Mountain/Pistone Archaeological District ACEC				
544.	Action: No similar action.	Action: Designate 3,400 acres as the Black Mountain/Pistone Archaeological District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Provide for cultural resource inventory. • Provide for volunteer or staff monitoring of site. • Provide for law enforcement patrols of 	Action: Designate 3,400 acres as the Black Mountain/Pistone Archaeological District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Provide for cultural resource inventory. • Provide for volunteer or staff monitoring of site. • Provide for law enforcement patrols of site. 	Action: Designate 3,100 acres as the Black Mountain/Pistone Archaeological District ACEC for the protection of cultural resources. Manage same as Alternative B except: <ul style="list-style-type: none"> • Allow limited vegetative permitting. • Promote and/or increase interpretation. 	Action: No similar action. The area would not be designated as an ACEC (see <i>Cultural Resources</i> for management prescriptions).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		site. <ul style="list-style-type: none"> • Provide for research and educational opportunities. • Establish MOU with Walker River Paiute and Yerington Paiute Tribes for collaborative management of site. • Work with local community and tribal entities to establish interpretive tours of site. • Manage as a ROW avoidance area. • Manage as VRM Class III. • Apply CSU stipulations for fluid mineral leasing. 	<ul style="list-style-type: none"> • No interpretation would be allowed. • Recommend for withdrawal from locatable mineral entry. • Close to motorized travel except for administrative purposes. • Manage as a ROW exclusion area. • Vegetative permits would not be authorized. • Not available for livestock grazing. • Manage as VRM Class II. • Apply NSO stipulations for fluid mineral leasing. 		
545.	Proposed Churchill Narrows Buckwheat Botanical ACEC				
546.	Action: No similar action.	Action: Designate 6,600 acres as the Churchill Narrows Buckwheat Botanical ACEC to protect biological resources. <ul style="list-style-type: none"> • Manage site commensurate with other resources for the BLM sensitive species Churchill Narrows Buckwheat. • Provide signage for 	Action: Designate 6,600 acres as the Churchill Narrows Buckwheat Botanical ACEC to protect biological resources. <ul style="list-style-type: none"> • Recommend for withdrawal from locatable mineral entry. • Close to fluid mineral leasing. • Close to nonenergy mineral leasing. • Close to mineral material 	Action: Same as Alternative B.	Action: Same as Alternative B plus: <ul style="list-style-type: none"> • Recommend for withdrawal from locatable mineral entry. • Close to fluid mineral leasing.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		ACEC boundary.	disposal. <ul style="list-style-type: none"> • Close to motorized and mechanized travel except for administrative purposes. • Manage site as a priority resource for the BLM sensitive species Churchill Narrows Buckwheat. • Provide signage for ACEC boundary. 		
547.	Proposed Clan Alpine Greater Sage-Grouse ACEC				
548.	Action: No similar action.		Action: Designate 98,400 acres as the Clan Alpine Greater Sage-Grouse ACEC to protect early and late summer brood rearing habitat. <ul style="list-style-type: none"> • Adjust season of use for cattle grazing to avoid brood rearing season. • Close to OHV use during brood rearing season, except for administrative use. • Recommend for withdrawal from locatable mineral entry. • Manage as exclusion area for linear ROWs. • Close to fluid mineral leasing. • Close to mineral material disposal. 	Action: No similar action.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
549.	Carson Wandering Skipper ACEC				
550.	Action: Manage the existing 330-acre ACEC in accordance with current land use planning management decisions. <ul style="list-style-type: none">Develop a site-specific, detailed ACEC activity plan and environmental assessment in coordination with the University of Nevada Reno, USFWS, and Nevada Division of Wildlife.Restrict OHV use and mineral withdrawal to protect the site until completion of the activity plan.Any nonfederal lands in the area, identified as habitat for the Carson wandering skipper, will be considered for acquisition and will be included in the ACEC designation.	Action: No similar action (see <i>Special Status Species, Fish and Wildlife</i>).	Action: Manage the existing 330 acres as the Carson wandering skipper ACEC to protect biological resources. <ul style="list-style-type: none">Coordinate with USFWS and NDOW to identify primary habitat and develop an activity plan for management of the ACEC.Fence areas identified as primary habitat to exclude OHV and cattle.Close to motorized travel.Close to fluid and nonenergy mineral leasing.Consider acquisition of any nonfederal lands in the area that are identified as habitat for the Carson wandering skipper.Continue withdrawal from locatable mineral entry.Not available for livestock grazing.	Action: No similar action (see <i>Special Status Species, Fish and Wildlife</i>).	
551.	Proposed Desatoya Greater Sage-Grouse ACEC				
552.	Action: No similar action.		Action: Designate 105,100 acres as the Desatoya Greater Sage-Grouse ACEC	Action: No similar action.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			to protect PPMA. <ul style="list-style-type: none"> • Maintain rest rotation grazing system. • Recommend for withdrawal from locatable mineral entry within 3.25 miles of active leks. • Manage as a ROW exclusion area. • Close to fluid mineral leasing. • Close to mineral material disposal. 		
553.	Proposed Dixie Valley Toad ACEC				
554.	Action: No similar action.		Action: Designate 410 acres as the Dixie Valley Toad ACEC for the protection of biological resources. <ul style="list-style-type: none"> • Coordinate with NDOW, USFWS, and the Navy to identify primary habitat and develop an activity plan for management of the ACEC. • Fence site to exclude OHV and cattle. • Manage as VRM Class II. • Close to motorized travel except for administrative use. • Allow for scientific research related to the Dixie Valley Toad (<i>Anaxyrus boreas</i>). 	Action: No similar action.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Allow access to the hot springs for sacred and religious purposes only. • Recommend for withdrawal from locatable mineral entry. • Apply NSO stipulations for fluid mineral leasing. 		
555.	Proposed Fox Peak Cultural ACEC				
556.	Action: No similar action.	Action: Designate 48,400 acres as the Fox Peak Cultural ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Provide for volunteer or staff monitoring of site. • Provide for research and educational opportunities. • Establish an MOU with the Fallon Paiute-Shoshone Tribe for collaborative management of the site. 	Action: Designate 48,400 acres as the Fox Peak Cultural ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Close to motorized travel except for administrative use. • Recommend for withdrawal from locatable mineral entry. • Manage as VRM Class II. • Provide for law enforcement patrols of site. 	Action: Same as Alternative B.	Action: Designate 49,000 acres as the Fox Peak Cultural ACEC for the protection of cultural resources (Dynamite Cave is within the ACEC; see <i>Caves and Karst Section</i> for additional actions). <ul style="list-style-type: none"> • Provide for volunteer or staff monitoring of site. • Recommend for withdrawal from locatable mineral entry. • Provide for research and educational opportunities. • Partner with the Fallon Paiute-Shoshone Tribe for collaborative management of the site. • Manage as VRM Class II. • Close to fluid mineral leasing. • If the Job Peak WSA is released by Congress

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
					<p>from wilderness consideration, manage the portion of the Job Peak WSA that is within the ACEC (43,300 acres) as part of the Fox Peak ACEC (see <i>Wilderness Study Areas</i>).</p> <ul style="list-style-type: none"> • Manage the portion of Job Peak WSA that is within the ACEC(43,300 acres) as ROW exclusion. • Permit range improvement projects in consultation with tribes.
557.	Proposed Greater Sand Mountain ACEC (Sand Mountain SRMA and Sand Springs Desert Study Area ACEC are located within this ACEC; see <i>Recreation and Visitor Services, Special Recreation Management Areas - Sand Mountain SRMA and Special Designations, Areas of Critical Environmental Concern - Sand Springs Desert Study Area ACEC</i> for additional actions)				
558.	Action: No similar action.	Action: Designate 17,000 acres as the Greater Sand Mountain ACEC for the protection of cultural resources while providing for activities that support local economic development. <ul style="list-style-type: none"> • Restrict new ROW authorizations to existing ROW corridors. • Provide for SRP events that are compatible with management objectives on a 	Action: Designate 17,000 acres as the Greater Sand Mountain ACEC for the protection of cultural and biological resources. <ul style="list-style-type: none"> • Restrict new ROW authorizations to existing ROW corridors. • Recommend for withdrawal from locatable mineral entry. • Seasonally closed to motorized and mechanized use up to 2 months per year for Native American 	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Special Recreation Management Areas – Sand Mountain SRMA</i>).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		discretionary basis.	cultural/religious use (generally 2 weeks during each season). <ul style="list-style-type: none"> SRPs for organized, commercial, and competitive events would not be issued. 		
559.	Proposed Grimes Point Archaeological District ACEC (Hidden Cave and the Grimes Point Recreation Trail are located within the ACEC; see <i>Caves and Karst</i> and <i>National Recreation Trails</i> for additional actions. The Grimes Point Archaeological District ACEC is located with the Wyemaha Archaeological District, see the <i>Cultural Resources, Wyemaha Archaeological District</i>)				
560.	Action: No similar action.	Action: Designate 15,900 acres as the Grimes Point Archaeological District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Provide for volunteer or staff monitoring of site. Provide for law enforcement patrols of site. Apply NSO stipulations for fluid mineral leasing. Limit motorized and mechanized travel to existing roads and trails. Provide for research and educational opportunities. Establish MOU with Fallon Paiute-Shoshone Tribe for collaborative management of site. 	Action: Designate 15,900 acres as the Grimes Point Archaeological District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Provide for volunteer or staff monitoring of site. Provide for law enforcement patrols of site. Apply NSO stipulations for fluid mineral leasing. Recommend for withdrawal from locatable mineral entry. Close to motorized and mechanized travel except for administrative purposes. Manage as a ROW avoidance area. Not available for livestock grazing within a portion of the ACEC (2,100 acres). 	Action: Same as Alternative B.	Action: Designate 2,100 acres as the Grimes Point Archaeological District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Provide for volunteer or staff monitoring of site. Provide for law enforcement patrols of site. Close to fluid mineral leasing. Recommend for withdrawal from locatable mineral entry. Manage as a ROW avoidance area. Install cattle exclusion fencing in areas where restricting cattle is required to protect the cultural resources. Vegetative permits would not be authorized.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Work with local community and tribal entities to establish interpretive tours of site. • Develop and construct an interpretive center. • Manage as a ROW avoidance area. 	<ul style="list-style-type: none"> • Vegetative permits would not be authorized. • Reclamation-administered lands relinquished back to the BLM would be incorporated into the ACEC boundary (2,000 acres). 		<ul style="list-style-type: none"> • Reclamation-administered lands relinquished back to the BLM would be incorporated into the ACEC boundary (2,000 acres). • Provide for research and educational opportunities. • Coordinate with Fallon Paiute-Shoshone Tribe for collaborative management of site. • Work with local community and tribal entities to establish interpretive tours of site. • Develop and construct an interpretive center.
561.	Incandescent Rocks Scenic ACEC				
562.	Action: Manage the existing 1,100 acre area in accordance with current land use planning management decisions. <ul style="list-style-type: none"> • Protect the scenic quality of the area (Class A), plus the unique geologic features. Incandescent Rocks is within the foreground - middle ground viewing zone from the Pyramid Lake 	Action: Manage 1,100 acres as the Incandescent Rocks Scenic ACEC for the protection of scenic values. <ul style="list-style-type: none"> • Manage as VRM Class II. • Allow geological research and educational opportunities. • Provide for on-site interpretation of the 	Action: Manage 1,100 acres as the Incandescent Rocks Scenic ACEC for the protection of scenic values. <ul style="list-style-type: none"> • Recommend for withdrawal from locatable mineral entry. • Close to fluid mineral leasing. • Close to nonenergy mineral leasing. • Close to mineral material disposal. 	Action: Manage 1,100 acres as the Incandescent Rocks Scenic ACEC for the protection of scenic values. <ul style="list-style-type: none"> • Recommend for withdrawal from locatable mineral entry. • Manage as VRM Class II. • Allow geological 	Action: Manage 1,100 acres as the Incandescent Rocks Scenic ACEC for the protection of scenic values. <ul style="list-style-type: none"> • Recommend for withdrawal from locatable mineral entry. • Manage as VRM Class II. • Close to fluid mineral leasing. • Allow geological research and educational opportunities.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>Highway, and contains critical raptor nesting sites.</p> <ul style="list-style-type: none"> Plans of Operation will be pursued with the mining industry to protect portions of the unit for recreation use and scenic quality. Heavy reliance will be placed upon 43 CFR 3809 to mitigate impacts. Provide the public legal access to Incandescent Rocks by obtaining an easement across a 40 acre parcel of private land in T. 23 N., R. 20 E., Section 6, NE1/4 NE1/4. Limit OHV use to designated roads and trails. Existing roads will be designated open to OHV use except where those roads and trails impact sensitive meadows, seeps, springs and other waters. Manage as VRM Class II. 	<p>geological features.</p> <ul style="list-style-type: none"> Develop parking/day use area and interpretative kiosks. Motorized competitive SRP activities and events would not be authorized. Develop dispersed camping opportunities. Develop motorized/nonmotorized trail system. 	<ul style="list-style-type: none"> Manage as VRM Class II. Prohibit geo-caching. Manage as day use only (no camping). Develop nonmotorized, nonmechanized trails. SRPs would not be authorized. Manage as a ROW avoidance area. 	<p>research and educational opportunities.</p> <ul style="list-style-type: none"> Provide on-site interpretation of the geological features. Develop parking/day use area and interpretative kiosks. Develop nonmotorized, nonmechanized trails. Develop dispersed camping opportunities. SRPs would not be authorized for motorized commercial, competitive and organized group activities/events. 	<ul style="list-style-type: none"> Provide for interpretation of the geological features. Develop nonmotorized, nonmechanized trails. Manage existing dispersed camping opportunities. SRPs would not be authorized for motorized commercial, competitive and organized group activities/events.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
563.	Proposed Lassen Red Rock Scenic ACEC				
564.	Action: No similar action.		Action: Designate 800 acres as the Lassen Red Rock Scenic ACEC to protect the scenic qualities of the landscape. <ul style="list-style-type: none"> • Manage as a ROW exclusion area. • Within the central 5 acres: <ul style="list-style-type: none"> ○ Close to fluid mineral leasing. ○ Close to nonenergy mineral leasing. ○ Close to mineral material disposal. ○ Recommend for withdrawal from locatable mineral entry. • Manage as VRM Class II. • Close to motorized travel. • Manage as day use only (prohibit camping and campfires). (also see <i>Recreation and Visitor Services, Extensive Recreation Management Areas – Petersen ERMA</i>)	Action: No similar action.	Action: No similar action (see <i>Recreation and Visitor Services, Extensive Recreation Management Areas - Petersen ERMA</i>).
565.	Proposed Namazii Wunu Cultural ACEC				
566.	Action: No similar action.	Action: Designate 158,300 acres as the Namazii Wunu Cultural ACEC for the protection of cultural resources.	Action: Designate 158,300 acres as the Namazii Wunu Cultural ACEC for the protection of cultural resources.	Action: No similar action (see <i>Tribal Interests</i>).	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<ul style="list-style-type: none"> • Coordinate with Walker River Paiute and Yerington Paiute tribes for collaborative management of site. • Provide for research and educational opportunities. • Manage as a ROW avoidance area. • Manage as VRM Class III. • Apply CSU stipulations for fluid mineral leasing. 	<ul style="list-style-type: none"> • Coordinate with Walker River Paiute and Yerington Paiute tribes for collaborative management of site. • Close to fluid mineral leasing. • Close to nonenergy mineral leasing. • Close to mineral material disposal. • Recommend for withdrawal from locatable mineral entry. • Manage as a ROW exclusion area. • Vegetative permitting would not be authorized. • Not available for livestock grazing. • Prohibit prescribed fire. • Close to motorized travel except for administrative purposes. • Manage as VRM Class II. • No SRPs would be authorized. 		
567.	Pah Rah High Basin Petroglyph ACEC				
568.	Action: Manage the existing 3,900 acre Pah Rah High Basin Petroglyph ACEC in accordance with current land use planning management decisions.	Action: Manage 5,300 as the Pah Rah High Basin Petroglyph ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Provide for volunteer 	Action: Manage 5,300 acres as the Pah Rah High Basin Petroglyph ACEC with an emphasis on the protection and preservation of cultural resources.	Action: Same as Alternative B, except: <ul style="list-style-type: none"> • Develop public education/outreach program designed to increase public 	Action: Manage 5,300 acres of as the Pah Rah High Basin Petroglyph ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Provide law enforcement

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Develop a site-specific, detailed ACEC activity plan and environmental assessment in coordination with the Nevada State Preservation Office, Washoe County, Washoe Tribal Council, Pyramid Lake Paiute Tribal Council, and Reno-Sparks Indian Colony. Restrict OHV use and mineral withdrawal to protect the site until completion of the activity plan that will include explicit protective and monitoring measures. Consider for acquisition any nonfederal lands in the area identified as important for petroglyph resources and include as part of the ACEC. Protect the site from urban expansion, increased use of OHVs and theft of artifacts and vandalism. 	<ul style="list-style-type: none"> or staff monitoring of site. Provide for law enforcement patrols. Provide for research and educational opportunities. Coordinate with Washoe Tribal Council, Pyramid Lake Paiute Tribal Council, and Reno-Sparks Indian Colony for collaborative management of site. Work with local community and tribal entities to establish interpretive tours of site. Manage as a ROW avoidance area. Continue withdrawal from locatable mineral entry. 	<ul style="list-style-type: none"> Provide law enforcement patrols. No interpretation would be allowed. Apply NSO stipulations for fluid mineral leasing. Continue withdrawal from locatable mineral entry. Close to motorized travel except for administrative purposes. Manage as a ROW exclusion area. Vegetative permitting would not be authorized. Not available for livestock grazing. 	<ul style="list-style-type: none"> appreciation and understanding of these cultural resources through formal presentations to school groups, civic organizations, businesses; leading tours; participation in academic forums and presentation of professional papers; or cooperative agreements for formal archaeological and historic field schools. Apply NSO stipulations for fluid mineral leasing. Continue withdrawal from locatable mineral entry. 	<ul style="list-style-type: none"> patrols. Coordinate with Washoe Tribal Council, Pyramid Lake Paiute Tribal Council, and Reno-Sparks Indian Colony for collaborative management of site. Develop public education/outreach program designed to increase public appreciation and understanding of these cultural resources through formal presentations to school groups, civic organizations, businesses; leading tours; participation in academic forums and presentation of professional papers; or cooperative agreements for formal archaeological and historic field schools. Close to fluid mineral leasing. Continue withdrawal from locatable mineral entry. Manage as a ROW exclusion area. Vegetative permitting would not be authorized.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
569.	Proposed Pine Nut Bi-State Sage-Grouse ACEC				
570.	Action: No similar action.		Action: Designate 100,400 acres as the Pine Nut Bi-State Sage-Grouse ACEC to protect breeding, brood rearing, summer and winter habitat (priority habitat). <ul style="list-style-type: none"> • Manage season of use for livestock within this ACEC to meet sage grouse habitat objectives. • Manage newly acquired adjacent lands as part of the ACEC. • Prohibit OHV use within 3.25 miles of active leks from March 1 through May 15. • Recommend for mineral entry withdrawal within 3.25 miles of active leks. • Manage as a ROW exclusion area. • Close to fluid mineral leasing. • Close to mineral material disposal. 	Action: No similar action (see <i>Special Status Species</i>).	
571.	Proposed Pine Nut Mountains Williams Combleaf Botanical ACEC				
572.	Action: No similar action.		Action: Designate 330 acres as the Pine Nut Mountains Williams Combleaf Botanical ACEC to protect the Williams Combleaf. <ul style="list-style-type: none"> • Provide fencing and 	Action: Designate 330 acres as the Pine Nut Mountains Williams Combleaf Botanical ACEC to protect Williams Combleaf.	Action: No similar action.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			signage for ACEC boundary. <ul style="list-style-type: none"> Recommend for withdrawal from locatable mineral entry. Implement habitat restoration. Close to motorized and mechanized travel except for administrative purposes. Prohibit surface disturbance. 	<ul style="list-style-type: none"> Provide fencing and signage for ACEC boundary. Recommend for withdrawal from locatable mineral entry. Implement habitat restoration. 	
573.	Proposed Ruhenstroth Paleontological ACEC				
574.	Action: No similar action.	Action: Designate 2,300 acres as the Ruhenstroth Paleontological ACEC for the protection of paleontological resources. <ul style="list-style-type: none"> Allow for scientific research and studies. Provide for interpretation and educational opportunities. Manage as a ROW avoidance area. Manage as VRM Class III. 	Action: Designate 2,300 acres as the Ruhenstroth Paleontological ACEC with an emphasis on the protection and preservation of paleontological resources. <ul style="list-style-type: none"> Close to fluid mineral leasing. Close to nonenergy mineral leasing. Close to mineral material disposal. Recommend for withdrawal from locatable mineral entry. Close to motorized travel except for administrative purposes. Prohibit removal of rocks, mineral specimens, semi- 	Action: Designate 2,300 acres as the Ruhenstroth Paleontological ACEC for the protection of paleontological resources. <ul style="list-style-type: none"> Allow for scientific research and studies. Develop interpretation in areas with high paleontological values. Manage as a ROW avoidance area. Manage as VRM Class III. Prohibit removal of rocks, mineral 	Action: Designate 2,300 acres as the Ruhenstroth Paleontological ACEC for the protection of paleontological resources. <ul style="list-style-type: none"> Close to nonenergy mineral leasing. Close to mineral material disposal. Recommend for withdrawal from locatable mineral entry. Allow for scientific research and studies. Prohibit removal of rocks, mineral specimens, semi-precious stones, fossils, and petrified wood. Close to fluid mineral

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			precious stones, fossils, and petrified wood. <ul style="list-style-type: none"> • Manage as a ROW exclusion area. • Vegetative permitting would not be authorized. • Not available for livestock grazing. • Manage as VRM Class III. • SRPs would not be authorized. 	specimens, semi-precious stones, fossils, and petrified wood.	leasing. <ul style="list-style-type: none"> • Manage as VRM Class III. • Manage as a ROW exclusion area. • Develop interpretation in areas with high paleontological values.
575.	Proposed Sand Springs Desert Study Area ACEC (The study area is located within the Greater Sand Mountain ACEC and the Sand Mountain SRMA; see <i>Recreation and Visitor Services, Special Recreation Management Areas - Sand Mountain SRMA</i> and <i>Special Designations, Areas of Critical Environmental Concern – Greater Sand Mountain ACEC</i> for additional actions)				
576.	Action: No similar action.		Action: Designate the 50 acre Desert Study Area as the Sand Springs Desert Study Area ACEC for the protection of cultural resources. <ul style="list-style-type: none"> • Close to motorized and mechanized travel. • Manage as a ROW exclusion area. • Recommend for withdrawal from locatable mineral entry. • Vegetative collecting would not be permitted. • Manage the Sand Springs Pony Express Station and Pony Express NHT for historical interpretation. • Maintain the Sand Springs 	Action: No similar action.	Action: No similar action (See <i>Recreation and Visitor Services, Special Recreation Management Areas – Sand Mountain SRMA</i>).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			Interpretive Trail.		
577.	Proposed Steamboat Buckwheat Botanical ACEC				
578.	Action: No similar action.		Action: Designate 80 acres as the Steamboat Buckwheat ACEC to protect biological resources for the BLM special status species - Steamboat Buckwheat. <ul style="list-style-type: none"> • Close to motorized and mechanized travel except for administrative purposes. • Provide fencing and signage for ACEC boundary. • Continue withdrawal from locatable mineral entry. • Close to mineral material disposal. 	Action: No similar action.	
579.	Steamboat Hot Springs Geyser Basin ACEC				
580.	Action: Manage the existing 40 acre Steamboat Hot Springs Geyser Basin ACEC to protect the geologic values in accordance with current land use planning management decisions: <ul style="list-style-type: none"> • Acquire legal access to the Steamboat Hot Springs Area. • Acquire adjacent thermal features 	Action: No similar action. Area would not be designated an ACEC as the relevance and important values no longer exist.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<p>occurring on private land to the north and east of the geyser terrace, through voluntary exchange or purchase.</p> <ul style="list-style-type: none"> • Develop minimal recreational facilities within the area to protect the thermal features and the public and to allow for public enjoyment of the area. • Fence the 40 acre area and close it to OHV use. • Develop an ACEC Management Plan. 				
581.	Stewart Valley Paleontological ACEC				
582.	<p>Action: Manage the existing 16,000 acre Stewart Valley Paleontological ACEC in accordance with current land use planning management decisions:</p> <ul style="list-style-type: none"> • Manage the Stewart Valley ACEC as a Research Natural Area. • Establish special rules and permits for scientific research and field schools. Prohibit commercial or private collection. 	<p>Action: Manage 15,900 acres as the Stewart Valley Paleontological ACEC for the protection of paleontological resources, allow for scientific research, and provide for interpretation of ACEC.</p> <ul style="list-style-type: none"> • Re-establish the 1,420 acre mineral withdrawal. • Apply NSO stipulations for fluid mineral leasing. • Manage as VRM Class II. 	<p>Action: Manage 15,900 acres as the Stewart Valley Paleontological ACEC for the protection of paleontological resources.</p> <ul style="list-style-type: none"> • Revise and update the existing site management plan. • Prohibit removal of rocks, mineral specimens, semi-precious stones, fossils, and petrified wood. • Re-establish the 1,420 acre mineral withdrawal. • Close to fluid mineral 	<p>Action: No similar action.</p>	<p>Action: Manage 15,900 acres as the Stewart Valley Paleontological ACEC for the protection of paleontological resources, allow for scientific research, and provide for interpretation of ACEC.</p> <ul style="list-style-type: none"> • Revise and update the existing site management plan. • Prohibit removal of rocks, mineral specimens, semi-precious stones, fossils, and petrified wood.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Limit OHV use in the Stewart Valley ACEC to designated roads, trails and washes. 	<ul style="list-style-type: none"> Manage as a ROW exclusion area. Develop self-guided interpretive signage and trail system. Pursue development of docent led interpretive programs through Mineral County or educational institutions. Provide for research and educational opportunities. 	<ul style="list-style-type: none"> leasing. Manage as VRM Class II. Provide for research and educational opportunities. 		<ul style="list-style-type: none"> Recommend for withdrawal 1,420 acres from locatable mineral entry. Close to fluid mineral leasing. Manage as VRM Class II. Manage as a ROW exclusion area. Provide for research and educational opportunities.
583.	Proposed Tagim aša Cultural ACEC				
584.	Action: No similar action.	Action: Designate 81,800 acres as the Tagim aša Cultural ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Provide for research and educational opportunities. Coordinate with Washoe Tribe for collaborative management of site. Manage as a ROW avoidance area. Manage as VRM Class III. Apply CSU stipulations for fluid mineral leasing. 	Action: Designate 81,800 acres as the Tagim aša Cultural ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Recommend for withdrawal from locatable mineral entry. Close to motorized travel except for administrative purposes. Manage as a ROW exclusion area. Vegetative permitting would not be allowed. Not available for livestock grazing. Manage as VRM Class II. Apply NSO stipulations for fluid mineral leasing. 	Action: Designate 81,800 acres as the Tagim aša Cultural ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Provide for research and educational opportunities. Coordinate with the Washoe Tribe for collaborative management of site. Manage as a ROW avoidance area. Manage as VRM Class III. Apply CSU stipulations for fluid mineral leasing. 	Action: No similar action (see <i>Tribal Interests</i>).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> SRPs would not be authorized. 	<ul style="list-style-type: none"> Develop public education/outreach program designed to increase public appreciation and understanding of these cultural resources and tribal heritage. 	
585.	Proposed Virginia City National Landmark Historic District ACEC				
586.	Action: No similar action.	Action: Designate 14,700 acres as the Virginia City National Landmark Historic District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Allow for scientific research and studies. Provide for interpretation and educational opportunities. Manage as VRM Class IV. 	Action: Designate 14,700 acres as the Virginia City National Landmark Historic District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Close to nonenergy mineral leasing. Close to mineral material disposal. Manage as a ROW avoidance area. Manage as a ROW exclusion area for wind development. Vegetative permitting would not be authorized. Not available for livestock grazing. Manage as VRM Class II. Apply NSO stipulations for fluid mineral leasing. SRPs would not be authorized. 	Action: Designate 14,700 acres as the Virginia City National Landmark Historic District ACEC for the protection of cultural resources. <ul style="list-style-type: none"> Allow for scientific research and studies. Manage as VRM Class III. Partner with community groups and local government to support preservation and interpretation of the historic resources. 	Action: No similar action (see <i>Cultural Resources</i>).

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> Partner with community groups and local government to support preservation and interpretation of the historic resources. 		
587.	Proposed Virginia Mountains Greater Sage-Grouse ACEC				
588.	Action: No similar action.		Action: Designate 109,200 acres as the Virginia Mountains Greater Sage-Grouse ACEC to protect PPMA. <ul style="list-style-type: none"> Manage season of use for livestock grazing to meet sage grouse habitat objectives. Manage newly acquired adjacent lands as part of the ACEC. Prohibit permitted OHV use within 3.25 miles of active leks from March 1 through May 15. Recommend for withdrawal from locatable mineral entry within 3.25 miles of active leks. Manage as a ROW exclusion area. Close to fluid mineral leasing. Close to mineral material disposal. 	Action: No similar action(see <i>Special Status Species</i>).	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
589.	Virginia Range Williams Combleaf Botanical ACEC				
590.	<p>Action: Manage the existing 470 acre Virginia Range Williams Combleaf Habitat ACEC in accordance with current land use planning management decisions:</p> <ul style="list-style-type: none"> • The existing Conservation Agreement (March 24, 1997) between the BLM Nevada State Office and USFWS for conservation actions for the habitat area will continue to be used. Actions may be revised to include other land management agencies, address current conditions and additional populations. • OHV limitations and mineral withdrawal will provide additional protection for this habitat area and an activity plan is not needed. • Consider for acquisition any nonfederal lands in the area identified as habitat for the Virginia 	<p>Action: Manage 470 acres as the Virginia Range Williams Combleaf Botanical ACEC to protect biological resources for Williams Combleaf.</p> <ul style="list-style-type: none"> • Provide fencing and signage for ACEC boundary. • Continue withdrawal from locatable mineral entry. • Close to fluid mineral leasing. • Implement habitat restoration. 	<p>Action: Manage 470 acres as the Virginia Range Williams Combleaf Botanical ACEC to protect biological resources for Williams Combleaf.</p> <ul style="list-style-type: none"> • Close to motorized and mechanized travel except for administrative purposes. • Provide fencing and signage for ACEC boundary. • Close to fluid mineral leasing. • Close to nonenergy mineral leasing. • Close to mineral material disposal. • Continue withdrawal from locatable mineral entry. • Implement habitat restoration. 	<p>Action: Manage 470 acres as the Virginia Range Williams Combleaf Botanical ACEC to protect biological resources for Williams Combleaf.</p> <ul style="list-style-type: none"> • Provide fencing and signage for ACEC boundary. • Close to fluid mineral leasing. • Close to nonenergy mineral leasing. • Close to mineral material disposal. • Continue withdrawal from locatable mineral entry. • Implement habitat restoration. 	<p>Action: Same as Alternative B.</p>

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	Range Williams Combleaf and include as part of the ACEC.				
591.	Back Country Byways				
592.	GOAL: Enhance existing and develop new back country byways that offer opportunities to provide the public with interpretation and environmental education, wildlife viewing and an understanding of the historical and present uses of the lands unique to Nevada.				
593.	Objective: No similar objective.	Objective: In partnership with state and local agencies, develop new or modify existing back county byways to allow for public exploration of Nevada’s unique history, culture and landscapes.			
594.	Fort Churchill Back Country Byway				
595.	Objective: Continue managing the 67 mile Type I and Type II Fort Churchill to Wellington BLM Back Country Byway (Figure 2-99).	Objective: Designate the Fort Churchill Back Country Byway only from Dayton to Wellington emphasizing Nevada history and culture (Figure 2-100).	Objective: Rescind the Back Country Byway designation of the Fort Churchill to Wellington Byway from the BLM National Byway system (Figure 2-101).	Objective: No similar objective.	Objective: Same as Alternative B and emphasize multiple use and provide for mitigation of user conflicts and resource damage.
596.	Action: No similar action.	Action: <ul style="list-style-type: none">Review and upgrade existing signage.Review and correct classification of byway type.	Action: <ul style="list-style-type: none">Remove signage.	Action: No similar action.	Action: <ul style="list-style-type: none">Review and upgrade existing signage.Review and correct classification of byway type.Coordinate with partners to maintain and enhance the byway.
597.	Marietta Back Country Byway				
598.	Objective: No similar objective.	Objective: Designate the Marietta Back Country Byway route that emphasizes the Candelaria mining district, Teals Marsh and the Marietta Wild Burro Range to provide for exploration of	Objective: Designate the Marietta Back Country Byway route that emphasizes the Marietta Wild Burro Range and excludes the historic mining districts to protect historical resources (Figure 2-101).	Objective: No similar objective.	Objective: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		Nevada history and culture (Figure 2-100).			
599.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Add completed route to BLM road maintained system. • Partner with State of Nevada, Mineral County, and special interest groups to provide for road, interpretive signage, and kiosk installation and maintenance. • Work with BLM social media and Mineral County tourism board to promote byway. • Provide for interpretation of the historical mining features of Candelaria and Marietta Mining Districts along with the Marietta Wild Burro Range and Teels Marsh. • Develop interpretive brochures and materials that would be made available on-line and in local communities. 	Action: <ul style="list-style-type: none"> • Add completed route to BLM road maintained system. • Partner with State of Nevada, Mineral County, and special interest groups to provide for road, interpretive signage, and kiosk installation and maintenance. • Work with BLM social media and Mineral County tourism board to promote byway. • Sensitive archaeological and historical features will not be identified or interpreted. • Interpretation will focus on natural and scenic values of Teels Marsh and the Marietta Wild Burro Range. 	Action: No similar action.	Action: Same as Alternative B.
600.	New Pass to Hawthorne Back Country Byway				
601.	Objective: No similar objective.	Objective: Designate, promote and highlight the	Objective: Designate, promote and highlight the	Objective: No similar objective.	Objective: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		historic values of Nevada's western heritage including mining, livestock ranching, and the unique Basin and Range geomorphology by providing an auto tour route (Figure 2-100).	natural and scenic values of Nevada's western heritage including mining, livestock ranching, and the unique Basin and Range geomorphology by providing an auto tour route that provides protection of historical or cultural features through selective information (Figure 2-101).		
602.	Action: No similar action.	Action: <ul style="list-style-type: none"> • Add completed route to BLM road maintained system. • Partner with State of Nevada, Churchill, Nye and Mineral Counties, the Hawthorne Army Depot and special interest groups to provide for road interpretive signage, and kiosk installation and maintenance. • Work with BLM social media and local tourism boards to promote byway. • Develop interpretive brochures and materials that will be made available on-line and in local communities. • Interpret for historical 	Action: <ul style="list-style-type: none"> • Add completed route to BLM road maintained system. • Partner with State of Nevada, Churchill, Nye and Mineral Counties, the Hawthorne Army Depot and special interest groups to provide for road interpretive signage, and kiosk installation and maintenance. • Work with BLM social media and local tourism boards to promote byway. • Develop interpretive brochures and materials that will be made available on-line and in local communities. • Interpret the natural and scenic values of Lodi 	Action: No similar action.	Action: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		and archaeological features along the route with markers and kiosks.	Valley and the Gillis Mountain Range.		
603.	National Historic Trails				
604.	GOAL: Preserve and protect the historical trail remains, associated historic sites and historical setting of the Pony Express and California NHTs for public use and enjoyment.				
605.	Actions common to all: <ul style="list-style-type: none"> • In cooperation with the Oregon-California Trails Association and other partners, identify, record, and evaluate NHT segments and sites for NRHP eligibility. • Scientific and historical studies of cultural landscapes, sites, historic trails, and other resources, including excavation, would be allowed by qualified researchers on a case-by-case basis within the Pony Express and California Trail corridors with written authorization. • Establish collaborative partnerships with the National Park Service, National Trails Centers, partner groups, interest groups, interested individuals, local communities, and other stakeholders to implement Pony Express and California Trail related projects. • Establish National Trail management corridors for the Pony Express and California National Historic Trails. • Maintain a list of trails that have been authorized by Congress that are under study and trails that have undergone the study process and are either recommended as suitable or not suitable. 				
606.	Objective: Ensure the protection of trail resources, their interpretation, and their appropriate public use. Maintain the nationally important historic sites in public ownership.	Objective: Manage the NHTs to preserve the historic and scenic values and the cultural landscapes and viewsheds.			
607.	Action: Evaluate individual segments of National Historic Trails for inclusion into the NRHP based on integrity in a mixture of location, design, setting, materials, workmanship, feeling, or association.	Action: Evaluate high-potential sites and high-potential segments of the NHTs for inclusion into the NRHP based on resources qualities values and associated settings along with the primary uses identified.	Action: Evaluate trail related sites and segments of National Historic Trails for inclusion into the NRHP based on resources qualities values and associated settings along with the primary uses identified.		Action: Same as Alternative B.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
608.	<p>Action: No specific management has been identified in the Consolidated RMP and subsequent amendments for the Congressionally designated Pony Express and California NHTs. (Figure 2-99)</p>	<p>Action: Manage the NHTs as follows (Figure 2-100):</p> <ul style="list-style-type: none"> • Manage as VRM Class II (0.25-mile buffer on either side of centerline). • Manage as a ROW avoidance area (0.25-mile buffer on either side of centerline). • Mitigate direct and indirect adverse effects on eligible, unevaluated, or high-potential trail segments and associated sites through avoidance, project redesign, data collection, interpretation, public education, or other means. • New audible (e.g., noise) and atmospheric (e.g., smoke and dust) effects will not exceed current levels along the NHTs where feasible. 	<p>Action: Manage the NHTs as follows (Figure 2-101):</p> <ul style="list-style-type: none"> • Manage as VRM Class II (2.5-mile buffer on either side of centerline). • Manage as a ROW avoidance area (2.5-mile buffer on either side of centerline). • Mitigate direct and indirect adverse effects on eligible, unevaluated, or high-potential trail segments and associated sites through avoidance, project redesign, data collection, interpretation, public education, or other means. • New audible (e.g., noise) and atmospheric (e.g., smoke and dust) effects would not exceed current levels along the NHTs. The BLM would seek opportunities to reduce audible noise levels. 	<p>Action: Same as Alternative B. (Figure 2-102)</p>	<p>Action: Manage the NHTs as follows (Figure 2-103):</p> <ul style="list-style-type: none"> • Manage as VRM Class II (1-mile buffer on either side of centerline). • Manage as a ROW avoidance area (1-mile buffer on either side of centerline). • Mitigate direct and indirect adverse effects on eligible, unevaluated, or high-potential trail segments and associated sites through avoidance, project redesign, data collection, interpretation, public education, or other means. • New audible (e.g., noise) and atmospheric (e.g., smoke and dust) effects would not exceed current levels along the NHTs where feasible.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
609.	Action: No similar action.	Action: Open the NHT corridor to mineral materials sales and disposals as long as the actions are compatible with VRM classification and the historic values.	Action: Close the NHT corridor to nonenergy mineral leasing, mineral material disposals, and fluid mineral leasing within a 2.5-mile buffer on either side of centerline.	Action: Same as Alternative B.	Action: Close high-potential and eligible sites and segments along the NHT corridor to leasing (fluid and nonenergy) and mineral material disposals within a 1-mile buffer on either side of centerline. The remainder of the NHT corridor would be open to such leasing and development as long as the actions are compatible with the historic values.
610.	Action: Provide for public interpretation of the Pony Express and California Historic Trail.	Action: <ul style="list-style-type: none">Develop and enhance significant segments and sites by installing directional signs to trail segments from main roads, trail markers at trail traces, and interpretative signs.Pursue legal access for public visitation to trail segments.	Action: <ul style="list-style-type: none">Pursue legal access for the protection of the trail segments.Continue to support stewardship programs to monitor sites and generally assist with management.	Action: <ul style="list-style-type: none">Develop and enhance significant segments and sites by installing directional signs to trail segments from main roads, trail markers at trail traces, and interpretative signs.Pursue legal access for public visitation to trail segments.Continue to support stewardship programs and partnerships to lead trail tours, monitor sites, and generally assist with management.	
611.	Action: No similar action.	Action: <ul style="list-style-type: none">Provide recreation opportunities consistent with historic value of the NHTs.Develop and place facilities outside the trail corridor when feasible to protect	Action: <ul style="list-style-type: none">Provide recreation opportunities consistent with historic value of the NHTs.Develop and place facilities outside the trail corridor when feasible to protect resource values, provide for visitor safety, and support selected use opportunities.Develop facilities within the trail corridor only when needed to protect trail integrity and resources, or to establish an NHT recreation retracement route.		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		resource values, provide for visitor safety, and support selected use opportunities.			
612.	Action: Maintain the following nationally important historic sites in public ownership: <ul style="list-style-type: none"> • Pony Express • California Emigrant Route 	Action: Retain or cooperatively manage BLM-administered lands to assure long-term use, protection, and access to areas along the NHTs. Manage NHTs on withdrawn lands that revert back to BLM-administration consistent with NHT on BLM-administered lands.	Action: Retain BLM-administered lands and acquire available state and private lands and easements to assure long-term use, protection, and access to areas along the NHTs. Manage NHTs on withdrawn lands that revert back to BLM-administration consistent with the historic value.	Action: Same as Alternative B.	Action: Same as Alternative C.
613.	California National Historic Trail				
614.	High-potential sites: <ul style="list-style-type: none"> • Fernley Ruts (also known as Fernley Deep Sand Swales) High potential route segments: <ul style="list-style-type: none"> • Mickey Canyon • Humboldt Sink to Dayton (Carson Route) 				
615.	Action: Manage Fernley Ruts under a historic preservation and access easement.	Action: Same as Alternative A.	Action: Same as Alternative A plus: <ul style="list-style-type: none"> • Enhance protection measures (e.g., fencing and signage). 	Action: Same as Alternative A.	Action: Same as Alternative C.
616.	Action: No similar action.	Action: Manage intact Mickey Canyon and Humboldt Sink to Dayton (Carson Route) NHT segments to protect their historic values. Mitigate	Action: Manage Intact Mickey Canyon and Humboldt Sink to Dayton (Carson Route) NHT segments to protect their historic values. Do not allow	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		actions that would adversely affect the NHT through avoidance, project redesign, data collection, interpretation, public education, or other means.	actions that would adversely affect the NHT.		
617.	Pony Express National Historic Trail				
618.	High potential historic sites: <ul style="list-style-type: none">• Cold Springs Station/East Gate Station• Sand Springs Station				
619.	Action: Designate appropriate sites for public use and provide access and information. Promote visitation and interpretation of the Sand Springs and Cold Springs Pony Express Stations.	Action: No similar action(see Cultural Resources).			
620.	Action: Maintain current self-guided interpretive trails and informational signs at Sand Springs and Cold Springs Pony Express Stations.	Action: No similar action (see Cultural Resources).	Action: No similar action (see Special Designations, Areas of Critical Environmental Concern – Sand Springs Desert Study Area ACEC and Cultural Resources).	Action: No similar action.	Action: No similar action (see Recreation and Visitor Service, Special Recreation Management Areas – Sand Mountain SRMA and Cultural Resources).
621.	Action: Scientifically excavate, stabilize, and develop the Sand Springs and Cold Springs Pony Express Stations as public interpretive sites.	Action: No similar action.			
622.	National Recreation Trails				
623.	GOAL: Provide continued protection and support for national trails, to preserve, improve, and restore the character to be consistent with guidelines of the National Recreation Trails System Act.				
624.	Objective: No objective identified.	Objective: Manage the 0.75-mile Grimes Point National Recreation Trail consistently with secretarial designation.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
625.	Grimes Point National Recreation Trail (see <i>Special Designations, Areas of Critical Environmental Concern - Grimes Point Archaeological District ACEC</i>)				
626.	Action: Grimes Point Recreation Trail was designated with no specific management identified.	Action: Manage trail with the following management actions: <ul style="list-style-type: none">• Develop a management plan to include maintenance, interpretation, and monitoring of petroglyphs.• Provide for a minimum of one annual trail inspection to document the integrity of the petroglyph rock art.• Provide brochures and maintain interpretive trail markers.• Continue site steward monitoring with the Nevada Rock Art Foundation and other similar groups or qualified individuals.• Continue to manage under a memorandum of agreement with the Reclamation until such time as the land is relinquished to the BLM.• Coordinate with the Fallon Paiute Shoshone Tribe for the management of the trail.			
627.	Wilderness Study Areas				
628.	GOAL: Continue to manage WSAs to prevent impairment of wilderness values; protect naturalness, outstanding opportunities for solitude, and primitive and unconfined recreation opportunities; and maintain suitability for future designation as wilderness until such time that congress either designates the WSAs as wilderness or releases them from further consideration.				
629.	Action common to all: <ul style="list-style-type: none">• Areas that are released from wilderness consideration by Congress will be re-inventoried for wilderness characteristics. Lands found to possess wilderness characteristics, such as apparent naturalness and outstanding opportunities for solitude or primitive and unconfined recreation, will be managed for wilderness values commensurate with multiple uses while applying management restrictions to reduce impacts on the identified wilderness characteristics. Lands that do not possess wilderness characteristics will be managed consistently with adjacent lands.• No surface disturbance, permanent new development or ROWs are allowed.				
630.	Objective: Manage and protect WSAs to preserve wilderness characteristics so as not to impair the suitability of such areas for designation as wilderness by Congress (Figure 2-104).				
631.	Action: In accordance with Interim Management Policy for Lands Under Wilderness Review (IMP; BLM 1995), WSAs are managed as follows (nondiscretionary): <ul style="list-style-type: none">• Limit motorized travel to existing ways and trails.• Close to fluid mineral	Action: In accordance with Management of Wilderness Study Areas M-6330, WSAs are managed as follows (nondiscretionary): <ul style="list-style-type: none">• Limit motorized and mechanical travel to designated primitive routes.• Close to fluid mineral	Action: Same as Alternative B except: <ul style="list-style-type: none">• Close to motorized and mechanized travel.	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	leasing. <ul style="list-style-type: none"> • Manage as VRM Class I. • Close to nonenergy solid mineral leasing. • Close to mineral material disposal. • New authorizations must meet the nonimpairment criteria. 	leasing. <ul style="list-style-type: none"> • Manage as VRM Class I. • Close to nonenergy solid mineral leasing. • Close to mineral material disposal. • New authorizations must meet the nonimpairment criteria. 			
632.	Action: Manage the following WSAs: <ul style="list-style-type: none"> • Augusta Mountains (46,400 acres in CCD. This WSA is managed by the Humboldt BLM Field Office. See Winnemucca RMP) • Burbank Canyons (12,700 acres) • Carson Iceberg (500 acres) • Clan Alpine (195,700 acres) • Desatoya Mountains (42,200 acres) • Gabbs Valley Range (80,500 acres) • Job Peak (89,400 acres) • Slinkard (2,400 acres) • Stillwater Range (94,200 acres) 	Action: If released from wilderness consideration by Congress, manage for the highest resource values as follows: Burbank Canyons <ul style="list-style-type: none"> • Manage as VRM Class II. Carson Iceberg <ul style="list-style-type: none"> • Manage as VRM Class II. Clan Alpine <ul style="list-style-type: none"> • Manage as VRM Class III. Desatoya Mountains <ul style="list-style-type: none"> • Manage as VRM Class II. Gabbs Valley Range <ul style="list-style-type: none"> • Manage as VRM Class II. Job Peak <ul style="list-style-type: none"> • Manage as VRM Class II. 	Action: If released from wilderness consideration by Congress, same as Alternative B except manage the following as lands with wilderness characteristics: Carson Iceberg <ul style="list-style-type: none"> • Manage as VRM Class I. • Close to motorized travel except for administrative purposes. Clan Alpine <ul style="list-style-type: none"> • Manage as VRM Class II. Desatoya Mountains <ul style="list-style-type: none"> • Manage as VRM Class II. Common to all above: <ul style="list-style-type: none"> • Do not authorize motorized SRPs. • Close to nonenergy mineral leasing. • Close to mineral material disposal. • Close to fluid mineral leasing. 	Action: If released from wilderness consideration by Congress, same as Alternative B except manage the following as lands with wilderness characteristics: Carson Iceberg <ul style="list-style-type: none"> • Manage as VRM Class II. • Close to fluid mineral leasing. • Manage as a ROW avoidance area. • Restrict new or expanded range improvements. • Develop mitigation measures to retain outstanding opportunities for solitude or primitive and unconfined recreation. 	Action: If released from wilderness consideration by Congress, same as Alternative B except manage the following as lands with wilderness characteristics: Carson Iceberg <ul style="list-style-type: none"> • Manage as VRM Class I. Clan Alpine <ul style="list-style-type: none"> • Manage as VRM Class II. Desatoya Mountains <ul style="list-style-type: none"> • Manage as VRM Class II. Common to all above: <ul style="list-style-type: none"> • Close to fluid mineral leasing. • Manage as a ROW avoidance area. • Restrict new or expanded range improvements. • Develop mitigation measures to retain outstanding opportunities

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>Slinkard</p> <ul style="list-style-type: none"> Manage as VRM Class II. <p>Stillwater Range</p> <ul style="list-style-type: none"> Manage as VRM Class II. 	<ul style="list-style-type: none"> Manage as a ROW exclusion area. Recommend for withdrawal from locatable mineral entry. Prohibit new or expanded range improvements. Develop mitigation measures to retain outstanding opportunities for solitude or primitive and unconfined recreation. 		<p>for solitude or primitive and unconfined recreation.</p> <p>Portion of Job Peak (43,300 acres) that overlaps with the Fox Peak Cultural ACEC will continue be managed as part of the ACEC. Should any of the management prescriptions of the ACEC be more restrictive, they will take precedence (see <i>Special Designations, Areas of Critical Environmental Concern – Fox Peak ACEC</i>).</p>
633.	Wild and Scenic Rivers				
634.	GOALS: Protect National Wild and Scenic River System (NWSRS)-eligible river segments in accordance with the Wild and Scenic Rivers Act and BLM guidance (BLM Manual 6400 [BLM 2012o]).				
635.	Objectives: River segments eligible for NWSRS designation shall be accorded protective management, as necessary, to ensure that the qualities upon which eligibility is based are not degraded. A river's outstanding remarkable values shall be afforded adequate protection, subject to valid existing rights. Until the eligibility determination is superseded, management activities and authorized	Objective: No similar objective.	Objectives: Maintain the free-flowing character, preserve or enhance the outstandingly remarkable values, and allow no activities within the river corridor that would alter the tentative classification of those river segments determined to be suitable for congressional designation as part of the NWSRS.		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	uses shall not be allowed to adversely affect either eligibility or the tentative classification (43 CFR 8351).				
636.	Action: Identify 3 segments of the East Fork of the Carson River as eligible for inclusion in the NWSRS. Manage 3 segments of the East Fork of the Carson River to protect the outstanding remarkable values, free-flowing nature, and water quality (Figure 2-105).	Action: Determine that eligible segments are not suitable for inclusion in the NWSRS and release them from interim management protection afforded to eligible segments. <ul style="list-style-type: none">• East Fork Carson River Segment 1• East Fork Carson River Segment 2• East Fork Carson River Segment 3	Action: Determine the following 3 river segments as suitable for inclusion in the NWSRS (Figure 2-106): <ul style="list-style-type: none">• East Fork Carson River Segment 1• East Fork Carson River Segment 2• East Fork Carson River Segment 3 Coordinate with Humboldt-Toiyabe National Forest on classification designation and management actions.		
637.	East Fork Carson River Segment 1				
638.	Action: The East Fork Carson River Segment 1 would be managed to protect the outstanding remarkable values (Recreation, Scenic, and Fish), free flowing nature and tentative classification of Wild.	Action: No similar action.	Action: Manage the East Fork Carson River Segment 1 as follows (within 0.25 mile of either side of the ordinary high water mark): <ul style="list-style-type: none">• Tentative Classification: Wild.• Manage as VRM Class 1.• Manage as a ROW exclusion area.• Apply NSO stipulations for fluid mineral leasing.• Close to mineral material disposal.• Close to nonenergy mineral leasing.• Recommend for withdrawal from locatable mineral entry.• Prohibit surface-disturbing activities.• Collaborate with the Forest Service on the issuance of recreation permits.		
639.	East Fork Carson River Segment 2				
640.	Action: The East Fork Carson River Segment 2 would be managed to	Action: No similar action.	Action: Manage the East Fork Carson River Segment 2 as follows (within 0.25 mile	Action: Same as Alternative C except: <ul style="list-style-type: none">• Manage as VRM Class	Action: Same as Alternative C.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	protect the outstanding remarkable values (Recreation, Scenic, Fish, and Geologic), free flowing nature and tentative classification of Recreational.		of either side of the ordinary high water mark): <ul style="list-style-type: none"> • Tentative Classification: Recreational. • Manage as VRM Class II. • Manage as a ROW avoidance area. • Provide access to the river segment. • Collaborate with the Forest Service on the issuance of recreation permits. 	III. <ul style="list-style-type: none"> • Improve Hangman's Bridge river access site. 	
641.	East Fork Carson River Segment 3				
642.	Action: The East Fork Carson River Segment 3 would be managed to protect the outstanding remarkable values (Recreation, Scenic, Fish, and Geologic), free flowing nature and tentative classification of Scenic.	Action: No similar action.	Action: Manage the East Fork Carson River Segment 3 as follows (within 0.25 mile of either side of the ordinary high water mark): <ul style="list-style-type: none"> • Tentative Classification: Scenic. • Manage as VRM Class II. • Manage as a ROW avoidance area. • Collaborate with the Forest Service on the issuance of recreation permits. 	Action: Same as Alternative C except: <ul style="list-style-type: none"> • Tentative Classification: Recreational. 	Action: Same as Alternative C.
643.	Back Country Wildlife Conservation Areas				
644.	GOAL: Preserve and safeguard high value fish and wildlife habitat and hunting and fishing on lands with back country character.				
645.	Objective: No similar objective.		Objective: Use a balanced, multiple-use conservation approach to safeguard fish and wildlife habitat, existing	Objective: No similar objective.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			dispersed nonmotorized recreation opportunities, maintain existing authorized access, and maintain the surface values of backcountry areas.		
646.	Action: No similar action.		<p>Action: Manage 817,800 acres as Backcountry Wildlife Conservation Areas to provide for high quality fish and wildlife habitat and/or significant recreational opportunities, such as hunting and fishing (Figure 2-107):</p> <ul style="list-style-type: none"> • Gillis West (42,500 acres) • Gillis East (63,900 acres) • Gabbs Valley Range North (50,800 acres) • Gabbs Valley Range South (154,400 acres) • Pilot Mountains (93,700 acres) • Excelsiors (125,800 acres) • Fairview (131,400 acres) • Sand Springs (53,700 acres) • Clan Alpine (101,600 acres) <p>Management actions include:</p> <ul style="list-style-type: none"> • Manage as ROW exclusion except within existing ROWs. 	Action: No similar action.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
			<ul style="list-style-type: none"> • Restrict livestock grazing to prescriptive grazing, to be authorized on an annual basis, and consistent with BLM-approved sage-grouse management guidance. • Close to mineral material disposal. • Close to nonenergy mineral leasing. • Apply NSO stipulation to fluid mineral leasing. • Manage for the protection of PPMA and PGMA sage-grouse habitat in cooperation with USFWS and NDOW. • Implement fire-management strategies designed to mimic natural fire regime and enhance fish and wildlife habitat. • Consult with NDOW and USFWS to evaluate the impact of habitat management on sage-grouse, Lahontan cutthroat trout, bighorn sheep, mule deer, pronghorn, elk, and other species' habitat population trends. 		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
647.	Tribal Interests				
648.	GOAL: Ensure tribal issues and concerns are given consideration and continue the ongoing working relationship with Native American tribes.				
649.	Objective: No similar objective.	Objective: Protect known Native American burials.			
650.	Action: No similar action.	Action: <ul style="list-style-type: none"> Implement Native American Graves Protection and Repatriation Act and consult with appropriate tribes when intentional excavation of Native American human remains is necessary or when inadvertent discovery occurs of Native American human remains. Close the area within a 300-foot radius of a known human burial to: <ul style="list-style-type: none"> Mineral material disposal Fluid mineral leasing Nonenergy solid mineral leasing Authorize SRPs within 100 feet of known burial location on a case-by-case basis. Avoidance of known or discovered human 	Action: <ul style="list-style-type: none"> Implement Native American Graves Protection and Repatriation Act and consult with appropriate tribes when intentional excavation of Native American human remains is necessary or when inadvertent discovery occurs of Native American human remains. Close the area within a 1-mile radius of a known human burial to: <ul style="list-style-type: none"> Mineral material disposal Fluid mineral leasing Nonenergy solid mineral leasing Manage as a ROW avoidance area within a 1-mile radius of the site. Do not authorize SRPs within 500 feet of a known burial location. Subject to compliance with Native American Graves Protection and Repatriation Act, 	Action: <ul style="list-style-type: none"> Implement Native American Graves Protection and Repatriation Act and consult with appropriate tribes when intentional excavation of Native American human remains is necessary or when inadvertent discovery occurs of Native American human remains. Close the area within a 0.25-mile radius of a known human burial over to: <ul style="list-style-type: none"> Mineral material disposal Fluid mineral leasing Nonenergy solid mineral leasing Close known human burial areas over 50 years old to surface-disturbing activities. Authorize SRPs within 200 feet of 	Action: Same as Alternative B with the following additions: <ul style="list-style-type: none"> Coordinate with local governments to protect known burial locations. Manage as ROW avoidance area within a 1-mile radius of the site.

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		remains is the preferred option, subject to management requirements and results of any tribal consultation per Native American Graves Protection and Repatriation Act, as appropriate. Where avoidance is not feasible, archaeological data recovery may be implemented in accordance with appropriate laws.	archaeological excavation (including data recovery) may be allowed to provide for appropriate research questions and/or management requirements.	<p>known burial location on a case-by-case basis.</p> <ul style="list-style-type: none"> • Coordinate with local governments to protect known burial locations. • Avoidance of known or discovered human remains is the preferred option, subject to management requirements and results of any tribal consultation per Native American Graves Protection and Repatriation Act, as appropriate. Where avoidance is not feasible, archaeological data recovery may be implemented in accordance with appropriate laws. 	
651.	Action: The Navy and BLM will coordinate with Native American tribes and individuals in accordance with BLM policy.	Action: No similar action.			
652.	Objective: No similar objective.	Objective: Demonstrate a legally adequate good faith effort to consult and identify resource types or places of cultural significance with federally recognized tribes.			

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
653.	Action: No similar action.	Action: <ul style="list-style-type: none">• Coordinate with federally recognized tribes on an ongoing basis relating to any resource values or issues of tribal concern and invite tribes to engage in periodic meetings to express issues and concerns.• Conduct consultation on a formal government-to-government basis. Call and/or email tribal representatives in emergencies or where the need for notification is urgent.• Maximize opportunities for cooperation with tribal governments for managing cultural resources and public education.			
654.	Action: No similar action.		Action: Develop a cooperative management agreement with Native American tribes to manage sensitive sites or areas.		
655.	Objective: No similar objective.	Objective: Protect cultural properties, places, or objects important to the tribes to the degree possible under law, regulations, and guidance. Confidential information about tribal practices and beliefs, the location with which they are associated, and sacred sites would be kept confidential and protected from public disclosure to the extent allowed by law.			
656.	Action: No similar action.		Action: Inventory potentially sensitive cultural places identified during Native American consultation independent of specific land-use actions.	Action: Same as Alternative C with the primary focus being the urban interface area.	Action: Inventory potentially sensitive cultural places identified during Native American consultation under Section 110 of the National Historic Preservation Act.
657.	Action: No similar action.	Action: Identify places of importance through the consultation process.	Action: Identify places of importance through the consultation process. Evaluate areas that qualify as Traditional Cultural Properties and nominate NRHP-eligible properties.	Action: Identify places of importance through the consultation process. Nominate areas that qualify as Traditional Cultural Properties and conduct evaluations for the NRHP only within the urban interface area.	Action: Same as Alternative C.
658.	Action: No similar action.	Action: Avoid impacts on sacred sites regardless of eligibility and on Traditional Cultural Properties considered	Action: Avoid or mitigate adverse effects of federal actions on known tribal concerns.		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		eligible for or listed on the NRHP. If avoidance is not possible, develop and implement mitigation measures in consultation with the tribes.			
659.	Public Health and Safety				
660.	GOAL: Provide for public health and safety, especially in areas of concern, in development sites, and areas of concentrated use.				
661.	Actions common to all: <ul style="list-style-type: none"> Identify naturally occurring or human-made public safety hazards and take appropriate action to protect public health and safety. Investigate reported hazardous materials, solid wastes sites, and illegal dumpsites. Plan necessary containment, clean-up, and restoration of sites on a case-by-case basis as soon as possible after they are reported. Evaluate all BLM actions (including land use authorizations, mining and milling activities, and unauthorized land uses) for their potential to prevent production or dumping of hazardous or solid wastes. Identify appropriate mitigation for activities associated with all types of hazardous materials, waste management and all types of fire management. Provide public safety information through signing and kiosk information and brochures at the Sand Mountain Recreation Area in regards to abandoned mines that could be encountered at the area. Implement a total public closure during the Reno Air Races (generally 4 days in mid-June and 7 days in early- to mid-September, exact dates depend on event schedule). Work with applicable federal, tribal, state, and local law enforcement to develop MOUs for joint law enforcement responsibility. Set priorities for remediation of physical safety hazards using the following criteria: <ul style="list-style-type: none"> Where a death or major injury has occurred Where site is on or in immediate proximity to a recreation site or a known high use area Where a formal risk assessment has determined a high or extremely high-risk level The site is eligible for listing in the Abandoned Mines & Site Cleanup Module. Identify the probable scope of needed containment and clean-up efforts and rank sites according to relative priority for treatment planning and action. Priorities to consider include: <ul style="list-style-type: none"> High levels of heavy metals in waste. Ground- or surface-water quality degradation Ongoing, active resource damage. Safety hazards near established recreation areas or other areas frequented by users Other site-specific factors Use BLM personnel or hire contractors to remove accumulations of hazardous materials or solid waste from BLM-administered lands, including the removal, disarming, or neutralizing of explosives. 				

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
	<ul style="list-style-type: none"> Undertake education, enforcement, and administrative fire-prevention measures to reduce human-caused fires. Install and maintain the fencing and signage of dangerous hot spring pools with temperatures exceeding 120 degrees Fahrenheit. Restrict the use of pesticides. 				
662.	Objective: No similar objective.	Objective: Take appropriate measures to protect the public from known unexploded ordnance locations on BLM-administered lands, such as signing, fencing, removal, and remediation.			
663.	Action: No similar action.	Action: In cooperation with the US Department of Defense, identify the locations on BLM-administered lands that are potential areas of unexploded ordnances concern. Investigate, inventory and record the presence of unexploded ordnances on BLM-administered lands.			
664.	Objective: No similar objective.	Objective: Manage the Dixie Valley area to provide for safe military activities (Figure 2-108).			
665.	Action: No similar action.	Action: <ul style="list-style-type: none"> Manage as a ROW avoidance area. Where feasible, consolidate and collocate ROWs within existing disturbance area (including communication sites). Close to nonenergy mineral leasing. Close to mineral material disposal. Recommend for withdrawal from locatable mineral entry. Require BMPs and design features to minimize impacts on military flight operations. 	Action: No similar action.	Action: Same as Alternative B.	

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		<p>The BLM will consult with the Department of Defense on the following:</p> <ul style="list-style-type: none"> Activities that may have: <ul style="list-style-type: none"> Visual components (e.g. steam, lighting, and facility heights). Vertical obstruction components (e.g. towers and structures). Ground obstruction components (e.g. photovoltaic solar arrays, and above-surface piping). Frequency spectrum components (e.g. facilities with electromagnetic spectrum emissions). 			
666.	Objective: No similar objective.	Objective: Emphasize public education to promote safety for users.			
667.	Action: No similar action.	Action: Provide public safety information through	Action: Same as Alternative B with the following addition: <ul style="list-style-type: none"> Post signs, where necessary, to alert the public to safety issues. 		

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		BLM visitor-use brochures, websites, and various direct contacts with members of the public. Include information on hazards associated with abandoned mines, recreational shooting, unexploded ordinances, natural resource conditions, or hazardous conditions.			
668.	Objective: No similar objective.	Objective: Remediate and/or sign dangerous locations, accessible mine shafts, adits, or hot springs, and dangerous conditions or materials when identified.			
669.	Action: Close 286 acres known as Harvey’s Place within the Indian Creek Recreation withdrawal area to public access to protect public health and safety.	Action: Close 286 acres known as Harvey’s Place located in the withdrawal area within the Alpine SRMA to public access, including motorized, nonmotorized, and mechanized uses, to protect public health and safety. The closure pertains to South Tahoe Public Utility District’s existing ROW CANVCA 013255. Closure prevents unauthorized access or contact with discharged filtered-secondary treated wastewater (CA Title 22, Sec. 603010(g) prohibits human contact with recycled wastewater).			
670.	Action: Per Federal Register Notice, the discharge of firearms is prohibited in the following areas (see <i>Recreation and Visitor Services, Recreational Shooting</i>): <ul style="list-style-type: none">American Flat Mill 10 acres (Notice # NV-030-97001; December 20, 1996)Pine Nut Road No. 2 (Notice # NV030-97-1330-00; October 15, 1997)Moonrocks (Notice # NV-030-92-04; July 27, 1992)				
671.	Action: No similar action.	Action: Continue work with the BLM Abandoned Mines Program.			
672.	Action: No similar action.	Action: Coordinate with the Nevada Division of Minerals to promote identification, signing, fencing or other closure of dangerous, accessible mine shafts and adits.			
673.	Interpretation and Education				
674.	GOAL: Engage the public through education and increased awareness and understanding of public land.				
675.	Objective: No similar objective.	Objective: Provide education and interpretive opportunities that foster	Objective: Provide education and interpretive opportunities that foster	Objective: Provide education and interpretive	Objective: Provide education and interpretive opportunities that foster

Table 2-2
Description of Alternatives A, B, C, D, and E

Row #	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
		environmental literacy, stewardship, and awareness of multiple use management strategies emphasizing resource use and economic development.	environmental literacy, stewardship, and awareness of multiple use management strategies emphasizing preservation and protection of identified resource(s) above other management considerations.	opportunities that foster environmental literacy, stewardship, and awareness of multiple use management strategies emphasizing multiple resource use management and user conflict resolution in areas of higher population density near the urban interface.	environmental literacy, stewardship, and awareness of multiple use management strategies emphasizing balancing resource protection with multiple use management decisions.
676.	Action: No similar action.	Action: Increase public knowledge, appreciation and understanding of BLM resources: <ul style="list-style-type: none"> • Provide repeating, on the ground, school district sanctioned education and interpretive experiences as outlined by the BLM Hands on the Land initiative. • Provide education and interpretive programs and products as outlined by the BLM's Take It Outside: Connect to your BLM-administered lands initiative. • Provide indoor and outdoor interpretive presentations to civic organizations, businesses and other government agencies. • Develop and provide online education and interpretive programs. • Develop brochures and electronic literature. • Develop interpretive trail signs utilizing print and electronic media. • Develop strategic partnership opportunities via cooperative agreements. 			

Table 2-3
Washoe County Parcels Proposed for BLM Acquisition

General Location	County APN Number	Legal Land Description (Mount Diablo Meridian)	
		Township and Range	Within Section
Pah Rah Range/Northern Washoe Open Space: <i>Palomino Valley</i>	076-251-08	T. 22 N., R. 21 E.	7
	061-060-54	T. 43 N., R. 20 E.	36
	061-110-09	T. 44 N., R. 23 E.	7
	060-070-05	[TBD]	[TBD]
	066-260-10	T41. N., R. 20 E.	8
Pah Rah Range/Northern Washoe Open Space: <i>Monte Cristo Ranch Unit 1</i>	076-430-02	T. 23 N., R. 21 E.	22 and 27
	076-440-03	T. 23 N., R. 21 E	25 and 36
	076-500-01	T. 23 N., R. 21 E	32
		T. 22 N., R. 22 E.	5
	076-530-11	T. 23 N., R. 22 E	32 and 33
		T. 22 N., R. 22 E.	5
	076-530-07	T. 23 N., R. 22 E	32 and 33
	076-510-02	T. 22 N., R. 22 E	4 and 5
	076-590-02	T. 22 N., R. 22 E	10 and 15
	076-590-03	T. 22 N., R. 22 E	10, 11, 14 and 15
Pah Rah Range/Northern Washoe Open Space: <i>Monte Cristo Ranch Unit 2</i>	076-570-05	T. 22 N., R. 22 E	10 and 11
Swan Lake	080-671-08	T. 21 N., R. 19 E.	28
Red Rock Estates / Air Race Buffer	079-332-36	T. 21 N., R. 19 E.	5 and 6
	079-332-37	T. 21 N., R. 19 E.	5 and 6
Hungry Valley-Eagle Canyon Open Space	080-710-01	T. 21 N., R. 19 E.	24

Table 2-4
Segments Determined Eligible for Inclusion in the National Wild and Scenic River System

River Segment	Length on BLM-Administered Land (miles)	Outstandingly Remarkable Value(s)	Tentative Classification
East Fork Carson River Segment 1	1.51	Recreation, Scenic, Fish	Wild
East Fork Carson River Segment 2	1.03	Recreation, Scenic, Fish, Geologic	Recreational
East Fork Carson River Segment 3	1.97	Recreation, Scenic, Fish, Geologic	Scenic

Table 2-5
Proposed Habitat Objectives for Greater Sage-Grouse

Life Requisite	Habitat Indicator	Objective
GENERAL		
All life stages	Rangeland Health Standards	Meeting all standards ¹
LEK		
Cover	Availability of sagebrush cover	Has adjacent sagebrush cover
Security	Proximity of tall trees	Within 3 kilometers (1.86 miles):
		<ul style="list-style-type: none"> • none within line of sight of the lek • <3.5% conifer cover land cover
	Proximity of tall structures	None within 3 miles (5 km)
NESTING		
Cover	Sagebrush canopy cover (%)	≥20
	Sagebrush species present	Includes <i>Artemesia tridentata</i> subspecies
	Perennial grass cover (%)	≥10 if shrub cover <25 ²
	Annual grass (%)	<5
	Total shrub cover (%)	≥40
	Conifer encroachment (%)	<5
BROOD-REARING/SUMMER		
Cover	Sagebrush canopy cover (%)	≥10
Cover and Food	Perennial forb canopy cover (%)	≥5 arid
		≥15 mesic

Table 2-5
Proposed Habitat Objectives for Greater Sage-Grouse

Life Requisite	Habitat Indicator	Objective
Food	Riparian Areas/Meadows	Manage for PFC
	Perennial forb availability (riparian areas/meadows)	≥ 5 plant species present ³
Security	Conifer encroachment (%)	<3 phase I (0 – 25% cover) No phase II (25 – 50% cover) No phase III (>50% cover) within 850-meter buffer of microhabitat plot
	Riparian Area/Meadow Interspersion with adjacent sagebrush	Perimeter to area ratio of 0.15 within 159-meter buffer of the microhabitat plot
WINTER		
Cover and Food	Sagebrush canopy cover (%)	≥10
	Sagebrush height in centimeters(cm)	≥25
	Conifer encroachment (%)	<5 phase I (0 – 25% cover) no phase II (25 – 50% cover) no phase III (>50% cover) within 850-meter buffer of microhabitat plot
	Sagebrush extent (%)	>85 sagebrush land cover within 850-meter buffer centered on microhabitat plot
	Sagebrush species comp (%)	>50 <i>A. t. tridentate</i> sites
		>25 <i>A. arbuscula</i> sites >25 <i>A. t. vaseyana</i> sites

Sources: Blomberg et al. 2012; Casazza 2011; Coates et al. 2011; Coates and Delehanty 2010; Coates and Casazza (in prep. A); Coates and Casazza (in prep. B); Connelly et al. 2000; Kolada 2009a, 2009b; Lockyer et al. (in review); Nevada Governor's Sage-Grouse Conservation Team 2012

¹Upland standards are based on indicators for canopy and ground cover, including litter, live vegetation, and rock, appropriate to the ecological potential of the site.

²Assumes upland rangeland health standards are being met.

³Standard considered In addition to PFC. Measured ESD/Daubenmire (25 centimeter x 50 centimeter frame). Includes all mesic plant species, not only perennial forbs.

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Chapter 3

Affected Environment

CHAPTER 3

AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The purpose of this chapter is to describe the existing biological, physical, and socioeconomic characteristics of the CCD RMP planning area (planning area), including human uses that could be affected by implementing the alternatives described in **Chapter 2**. This chapter includes a discussion of resources, resource uses, special designations, and social and economic conditions. Each topic area includes an introduction, a description of current conditions, and a description of resource changes (trends and forecasts) that explain the direction of change between the present and some point in the past.

Acreage figures and other numbers used are approximate projections; readers should not infer that they reflect exact measurements or precise calculations. Acreages were calculated using GIS technology, and there may be slight variations in total acres between resources.

The planning area includes all lands, regardless of jurisdiction, within the planning area boundaries. However, the BLM makes decisions on only the lands and federal mineral estate that it administers (the decision area).

3.1.1 Context for the State of Nevada

Nevada is the 7th largest state in the United States and has an area of approximately 110,000 square miles. Nevada, in shape, consists of a broad rectangular area in the north, based on the line of latitude 42 degrees north, and angles downward and eastward from 39 degrees latitude between 120 degrees and 114 degrees longitude to a point at about 35 degrees latitude. After it was granted statehood, Nevada's boundaries were enlarged to include part of the Utah and New Mexico Territories.

Nevada has over 200 mountain ranges within its borders. Boundary Peak in Esmeralda County has the highest elevation at 13,140 feet, and the Colorado River in Clark County has the lowest elevation at 470 feet. The BLM

administers nearly 48 million acres of land in Nevada, or approximately 67 percent of Nevada's land base. Overall, about 86 percent of Nevada's total land area is administered by the federal government.

3.1.2 Ecoregional Context

Ecoregions defined by the EPA are derived from the seminal work *Ecoregions of the Conterminous United States* by J.M. Omernik (Omernik 1987). The framework is designed to serve as a spatial framework for research, assessment, management, and monitoring of environmental resources. Ecoregions denote areas within which ecosystems (and the type, quality, and quantity of environmental resources) are generally similar.

Nevada BLM has adopted the Rapid Ecoregional Assessment data. Rapid Ecoregional Assessments are a synthesis and analysis of the best available information about natural resource conditions and trends within an ecoregion. They highlight and map areas of high ecological value, including important wildlife habitats and corridors, and gauge their potential risks from four key environmental change agents: climate change, wildfires, invasive species, and development. Rapid Ecoregional Assessments also map areas that have high energy development potential, and relatively low ecological value, which could be best-suited for siting future energy development. In addition, Rapid Ecoregional Assessments establish landscape-scale baseline ecological data to gauge the effect and effectiveness of future management actions.

The BLM recognizes that public lands are facing increasingly complex and widespread environmental challenges that transcend traditional management boundaries. These challenges include managing wildfire, controlling weeds and insect outbreaks, providing for energy development and urban growth, and addressing the effects of climate change. The Rapid Ecoregional Assessments are being prepared to help land managers and stakeholders better understand these challenges and to provide science-based information to support balanced stewardship of the diverse natural resources of the public lands.

Rapid Ecoregional Assessments do not make management decisions or allocate resource uses. They provide science-based information and tools for land managers and stakeholders to consider in subsequent resource planning and decision-making processes. The BLM will use the Rapid Ecoregional Assessments to inform resource management at the local and ecoregional levels. At the local level, the Rapid Ecoregional Assessments will enhance the quality of land use planning and environmental analysis conducted by BLM field offices. The information, maps, and tools provided by the Rapid Ecoregional Assessments will strengthen analyses of the potential and cumulative effects of climate change and other environmental disturbances on important ecological values.

At the ecoregional level, the BLM will use the Rapid Ecoregional Assessments, along with input from partner agencies, stakeholders, and Native American

tribes, to develop broad-level management strategies, called ecoregional direction, for an ecoregion's BLM-administered lands. Ecoregional direction will be prepared after a Rapid Ecoregional Assessment is completed.

3.2 RESOURCES

This section contains a description of the biological and physical resources of the planning area and follows the order of topics addressed in **Chapter 2**:

- Air Quality
- Climate Change
- Soils and Water Resources
- Vegetation
- Fish and Wildlife
- Special Status Species
- Wild Horses and Burros
- Wildland Fire Ecology and Management
- Cultural Resources
- Paleontological Resources
- Visual Resources
- Lands with Wilderness Characteristics Outside Existing Wilderness Study Areas (WSAs)
- Cave and Karst Resources

3.2.1 Air

Ambient air quality is affected by the type and amount of air pollutants emitted into the atmosphere, the size and topography of the air basin, prevailing meteorological conditions, and the conversion of air pollutants and other particles by a complex series of chemical and photochemical reactions in the atmosphere. Air quality related values include effects on soil and water, such as sulfur and nitrogen deposition and lake acidification, and aesthetic effects, such as visibility. Air emission sources within the planning area can affect air quality both within and outside the planning area. Activities on BLM-administered lands must be managed in accordance with the Clean Air Act, as amended, and be in compliance with all other applicable federal, state, and local air regulations.

Regulatory Considerations

The Clean Air Act (42 USC 7401–7642) established the principal framework for national, state, and local efforts to protect air quality in the US. Under the Clean Air Act, EPA has set time-averaged standards known as national ambient air quality standards (NAAQS) for six air pollutants considered to be key indicators of air quality: carbon monoxide (CO), lead, nitrogen dioxide (NO₂), ozone,

particulate matter with a diameter less than or equal to 10 microns (PM_{10}), particulate matter with a diameter less than or equal to 2.5 microns ($PM_{2.5}$), and sulfur dioxide (SO_2). States may set their own ambient air quality standards, but these standards must be at least as stringent as the national standards. The State of Nevada has adopted most of the NAAQS to regulate air pollution in the state. The state has adopted a more stringent carbon monoxide standard for areas higher than 5,000 feet, a more stringent sulfur dioxide standard, and a standard for hydrogen sulfide, for which there is no national standard (Nevada Administrative Code 445B.22097). California, in which a small amount of the planning area is located, has also adopted a state hydrogen sulfide standard. **Table 3-1**, State and National Ambient Air Quality Standards, portrays the Nevada, California, and national ambient air quality standards.

Table 3-1
State and National Ambient Air Quality Standards

Pollutant	Averaging Time	Nevada Standards	California Standards	National Standards
Ozone	1 hour (outside Lake Tahoe Basin)	0.12 ppm	0.09 ppm	Standard rescinded
Ozone	1 hour (in Lake Tahoe Basin)	0.10 ppm	0.09 ppm	Standard rescinded
Ozone	8 hour	Not applicable	0.070 ppm	0.075 ppm
Carbon Monoxide	1 hour	35 ppm	20 ppm	35 ppm
Carbon Monoxide	8 hour (areas below 5,000 feet elevation)	9 ppm	9 ppm	9 ppm
Carbon Monoxide	8 hours (areas at or above 5,000 feet elevation)	6 ppm	6 ppm	9 ppm
Nitrogen Dioxide	Annual average	0.053 ppm	0.030 ppm	0.053 ppm
Nitrogen Dioxide	1 hour	Not applicable	0.18 ppm	0.100 ppm
Sulfur Dioxide	Annual average	0.030 ppm	Not applicable	Standard rescinded
Sulfur Dioxide	24 hour	0.14 ppm	0.04 ppm	Standard rescinded
Sulfur Dioxide	3 hour	0.5 ppm	Not applicable	0.5 ppm
Sulfur Dioxide	1 hour	Not applicable	0.25 ppm	0.075 ppm
Inhalable Particulate Matter (PM_{10})	Annual arithmetic mean	50 $\mu g/m^3$	20 $\mu g/m^3$	Not applicable
Inhalable Particulate Matter (PM_{10})	24 hours	150 $\mu g/m^3$	50 $\mu g/m^3$	150 $\mu g/m^3$
Fine Particulate Matter ($PM_{2.5}$)	Annual arithmetic mean	Not applicable	12 $\mu g/m^3$	12 $\mu g/m^3$

**Table 3-1
State and National Ambient Air Quality Standards**

Pollutant	Averaging Time	Nevada Standards	California Standards	National Standards
Fine Particulate Matter (PM _{2.5})	24 hours	Not applicable	Not applicable	35 µg/m ³
Lead Particles (TSP sampler)	Calendar quarter	1.5 µg/m ³	Not applicable	1.5 µg/m ³
Lead Particles (TSP sampler)	Rolling 3-month average	Not applicable	Not applicable	0.15 µg/m ³
Lead Particles	30-day average	Not applicable	1.5 µg/m ³	Not applicable
Hydrogen Sulfide	1 hour	0.08 ppm	0.03 ppm	Not applicable
Sulfates	24-hour	Not applicable	25 µg/m ³	Not applicable
Vinyl Chloride	24-hour	Not applicable	0.01 ppm	Not applicable

Sources: CARB 2012; NDEP 2010a; EPA 2011a

Notes:

ppm = parts per million

All standards except the national PM₁₀ and PM_{2.5} standards are based on measurements corrected to 25 degrees Celsius and 1 atmosphere pressure.

The national PM₁₀ and PM_{2.5} standards are based on direct flow volume data without correction to standard temperature and pressure.

The national 1-hour ozone standard was rescinded for 41 states (including Nevada) prior to June 2005 but remains in effect for portions of Colorado, Georgia, Maryland, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

The national 8-hour ozone standard was revised from 0.08 ppm to 0.075 ppm, effective May 27, 2008.

A 1-hour NO₂ standard was added in California in February 2007 and nationally on April 12, 2010.

The national 24-hour standard for PM_{2.5} was revised from 65 micrograms per cubic meter to 35 micrograms per cubic meter effective December 17, 2006. The national primary standard for annual PM_{2.5} was revised from 15 micrograms per cubic meter to 12 micrograms per cubic meter on December 14, 2012.

The “10” in PM₁₀ and the “2.5” in PM_{2.5} are not particle size limits but identify the particle size class (aerodynamic diameter in microns) collected with 50 percent mass efficiency by certified sampling equipment. The maximum particle size collected by PM₁₀ samplers is about 50 microns. The maximum particle size collected by PM_{2.5} samplers is about 6 microns.

The national 3-month rolling average standard for lead was adopted in November 2008. The previous calendar quarter lead standard will remain in effect for a minimum of 1 year.

The Nevada standard for hydrogen sulfide represents an increment above naturally occurring background concentrations.

A NAAQS is composed of two parts – an allowable concentration of a criteria pollutant and an averaging time over which the concentration is to be measured. Averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposure to a high concentration for a short time or to a lower average concentration over a longer period. For some pollutants, there is more than one air quality standard, reflecting both short-term and long-term effects. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Hazardous Air Pollutants

In addition to criteria pollutants, the Clean Air Act regulates toxic air pollutants, or hazardous air pollutants, that are known or suspected to cause cancer or other serious health effects or adverse environmental impacts. The hazardous air pollutant regulatory process identifies specific chemical substances that are potentially hazardous to human health and sets emission standards to regulate the amount of those substances that can be released by individual facilities or by specific types of equipment. The EPA has issued rules covering 80 categories of major industrial sources as well as categories of smaller sources. Controls are usually required at the source to limit the release of these air toxics into the atmosphere.

Federal emission standards for hazardous air pollutants have been promulgated as National Emission Standards for Hazardous Air Pollutants and as Maximum Available Control Technology standards. Nevada has adopted a state Maximum Available Control Technology standard for mercury emissions from thermal process units at precious metals mining operations. There are two precious metals mines in Mineral County, and operators of these mines are required to comply with the state's Mercury Control Program. Because major sources of hazardous air pollutants are controlled at the source, hazardous materials are not an issue of concern in the planning area.

General Conformity Rule

Section 176(c) of the Clean Air Act requires that federal actions conform to the appropriate state implementation plan. A state implementation plan is a plan developed at the state level that provides for the implementation, maintenance, and enforcement of NAAQS and is enforceable by the EPA. The EPA has promulgated rules establishing conformity analysis procedures for transportation-related actions and for other general federal agency actions (40 CFR Parts 6, 51, and 93). The EPA general conformity rule requires preparation of a formal conformity determination document for federal agency actions that are undertaken, approved, or funded in federal nonattainment or maintenance areas when the total net change in direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds.

Prevention of Significant Deterioration

Prevention of Significant Deterioration sets forth a permit process that applies to new major sources or major modifications of existing sources for pollutants where the source is located in an attainment or unclassifiable area as defined by the NAAQS. Prevention of Significant Deterioration requires the use of Best Available Control Technologies and provides for an air quality impact analysis as well as public involvement. The purpose of the Prevention of Significant Deterioration is to protect the public health and welfare and to preserve, protect, and enhance the air quality of national parks and wilderness areas, as well national monuments, seashores, and other areas of national recreational, scenic, or historic value.

Air quality control regions are classified either as Class I, II, or III to indicate the degree of air quality deterioration that the state or federal government will allow while not exceeding NAAQS (though no Class III areas have been designated). As a Class II area, a moderate change in air quality due to industrial growth while still maintaining air quality that meets the NAAQS would be allowed. Class I areas are special areas of natural wonder and scenic beauty, such as national parks, national monuments, and wilderness areas, where air quality should be given special protection. Class I areas are subject to maximum limits on air quality degradation. There are no Prevention of Significant Deterioration program Class I visibility protection areas within the planning area. The only Class I area in Nevada is the Jarbidge Wilderness in north-central Elko County. In California, the nearest Class I area is in the Mokelumne Wilderness in Alpine County, which is outside of the planning area. Jarbidge Wilderness is more than 62 miles (100 kilometers) from the planning area, while Mokelumne Wilderness is within 62 miles (100 kilometers) of the planning area.

Current Conditions

The Nevada Division of Environmental Protection (NDEP), Bureau of Air Quality Planning operates and maintains a network of ambient air quality monitors throughout rural Nevada, while the Washoe County Health District Air Quality Management Division operates and maintains a network of ambient air quality monitors in Washoe County. Air quality is not monitored in the small regions of the California counties in the planning area.

The Clean Air Act requires each state to identify areas that have ambient air quality in violation of federal standards using monitoring data collected through state monitoring networks. Areas that violate air quality standards are designated as nonattainment areas for the relevant criteria air pollutants. Areas that comply with air quality standards are designated as attainment areas for the relevant criteria air pollutants. Areas that have been redesignated from nonattainment to attainment are considered maintenance areas. Areas of uncertain status are generally designated as unclassifiable but are treated as attainment areas for regulatory purposes.

The majority of the planning area is attainment or unclassifiable for the NAAQS. A portion of Washoe County is a serious nonattainment area for PM₁₀, and portions of Carson City, Douglas, and Washoe Counties are maintenance areas for carbon monoxide (EPA 2013).

The primary sources of air pollutant emissions on BLM-administered lands in the planning area include activities related to tourism, recreation (including off-highway vehicle [OHV] use), exploration and development of mineral resources, construction, agriculture, and geothermal power development. Wildfires in Northern California, Yosemite, and the Lake Tahoe area can sometimes be transported into the CCD planning area and reduce visibility in scenic areas.

Resource Changes

The NDEP, Bureau of Air Quality Planning issued an air quality trend report for 2000 to 2010 (NDEP 2013). This report used ambient air data collected in Nevada's 15 rural counties (all counties except Clark and Washoe) to reveal trends in ambient air quality. Monitoring data show that ambient concentrations of carbon monoxide have decreased and are well below NAAQS; ambient concentrations of ozone have remained steady and are below NAAQS; ambient concentrations of PM_{2.5} have trended upward and are approaching NAAQS in some areas (Carson City and Gardnerville) but have decreased in other areas (Fernley); and ambient concentrations of PM₁₀ have decreased and remain below NAAQS.

The Washoe County Air Quality Management Division publishes annual air quality trend reports for Washoe County. The most recent report is for the 10-year period between 2003 and 2012 (Washoe County 2013). Monitoring data show that ambient concentrations of PM_{2.5} were at or above the NAAQS at monitored stations from 2003 to 2010 but below the NAAQS in 2011 and 2012. Ambient concentrations of ozone have remained steady at just below current NAAQS, though occasional exceedances of the 8-hour standard have occurred in the last 3 years. Ambient concentrations of carbon monoxide have decreased slightly and are well below NAAQS. The adoption of more stringent NAAQS by EPA may affect the future attainment status of portions of the planning area.

The forecast for air quality is a continuation of current trends. The following factors may affect future air quality of the planning area:

- The population will continue to grow.
- Air pollutants from the Reno-Sparks metropolitan area can be transported onto BLM-administered lands.
- The Carson City 2009-2011 annual PM_{2.5} observations do not comply with the new NAAQS for annual PM_{2.5}, approved in December 2012.
- The 2010-2011 Wadsworth 24-hour PM₁₀ observations do not comply with the NAAQS for PM₁₀.

The majority of the BLM-administered lands in the planning area are in Mineral and Churchill Counties, where the 2010 population densities average 1.3 and 5.0 people per square mile, respectively. These low population densities suggest that there are not enough emissions sources (e.g., vehicles, industries, and construction) to lead to an exceedance of any federal or state air quality standard.

3.2.2 Climate

Climate and Meteorology

The planning area is located in the Great Basin on the east side of the Sierra Nevada Mountain Range. Elevation ranges from 3,796 feet at Pyramid Lake to 11,236 feet at Mount Grant in Mineral County. Several mountain ranges and deep sediment-filled basins are located in the region. Most of the mountain ranges are aligned in a north-south direction.

The predominant wind direction in Nevada is from the west. In Reno and Fallon, winds are mostly southerly in the winter months and westerly to northwesterly from spring to fall (WRCC 2013). The local topography could channel the local winds in another direction. When an air mass approaches from the west, it first hits the western slope of the Sierras, where it is forced upwards and cooled. The moisture condenses and can fall out as precipitation. When the air mass descends on the eastern slope of the Sierras, most of the moisture has fallen out. As a result, the air mass over the planning area is typically low in humidity; annual precipitation at most meteorological observation sites averages only 5 to 10 inches per year, with higher totals over the mountain ranges.

In the summer, most of the planning area has an average daytime high temperature in the upper 80s to lower 90s degrees Fahrenheit (°F), with lows in the upper 40s and 50s. Temperatures are cooler at the higher elevations. In the winter, temperatures typically range from the teens to mid-20s at night to the 40s in the daytime.

The Western Regional Climate Center has 34 long-term weather station sites within or adjacent to the planning area. Records of weather patterns illustrate variations or fluctuations in precipitation and temperature in the planning area. Climate oscillations that affect the planning area include El Niño, the Interdecadal Pacific Oscillation, La Niña, and the Pacific Decadal Oscillation. These variations in climate impact lake levels, snow cover, soil erosion, sedimentation, slope and dune movement, and effects on fire frequency.

Climate Change

Climate change is defined by the Intergovernmental Panel on Climate Change as:

a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and persist for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity (IPCC 2007).

The earth has a natural greenhouse effect, wherein naturally occurring gases such as water vapor, carbon dioxide, methane, and nitrous oxide absorb and retain heat. Without the natural greenhouse effect, the earth would be approximately 60 °F cooler. Climate change is caused in part by the increase in

greenhouse gases in the atmosphere beyond naturally occurring levels. Over time the amount of energy sent from the sun to the earth's surface should be approximately the same as the amount of energy radiated back into space, leaving the temperature of the earth's surface roughly constant. Increased levels of greenhouse gases trap more heat in the atmosphere rather than allowing it to escape back into space.

Climate models predict that if greenhouse gases continue to increase, the average temperature at the earth's surface could increase from 3.2 to 7.2 °F (1.8 to 4 degrees Celsius [°C]) above 1990 levels by the end of this century (EPA 2011b). An increase in the average temperature of the earth may produce changes in sea levels, rainfall patterns, and intensity and frequency of extreme weather events. The Intergovernmental Panel on Climate Change, in its Fourth Assessment Report, stated that warming of the earth's climate system is unequivocal and that warming is very likely due to anthropogenic (human-caused) greenhouse gas concentrations (IPCC 2007).

Greenhouse Gas Emissions

Greenhouse gases are compounds in the atmosphere that absorb infrared radiation and re-radiate a portion of that radiation back to the earth's surface, thus trapping heat and warming the atmosphere. Greenhouse gases have the potential to affect climate patterns, which in turn can affect resource management. The most important naturally occurring greenhouse gas compounds are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Carbon dioxide, methane, and nitrous oxide are produced naturally by the following processes:

- Respiration and other physiological processes of plants, animals, and microorganisms
- Decomposition of organic matter
- Volcanic and geothermal activity
- Naturally occurring wildfires
- Natural chemical reactions in soil and water

Ozone is not released directly by natural sources but forms during complex chemical reactions in the atmosphere among organic compounds and nitrogen oxides in the presence of ultraviolet radiation. While water vapor is a strong greenhouse gas, its concentration in the atmosphere is primarily a result and not a cause of changes in surface and lower atmospheric temperature conditions.

Although naturally present in the atmosphere, concentrations of carbon dioxide, methane, and nitrous oxide are also produced by industrial processes, transportation technology, urban development, agricultural practices, and other human activity. The EPA estimated that national greenhouse gas emissions in 2012 (the most recent year for which national data has been tabulated) totaled

6,526 million metric tons of carbon dioxide equivalents (a measure that accounts for the global warming potential of the different greenhouse gases). This is a decrease of nearly 800 million metric tons since the peak in 2007 (7,325 million tons) and 292 million metric tons over 1990 levels (6,233 million tons; EPA 2014a).

The EPA categorized the major economic sectors contributing to US emissions of greenhouse gases in 2012 as follows (EPA 2014a):

- Electric power generation (32 percent)
- Transportation (28 percent)
- Industrial processes (20 percent)
- Agriculture (10 percent)
- Commercial and residential (10 percent)

NDEP estimated that Nevada's statewide greenhouse gas emissions in 2010 (the most recent year for which state data has been tabulated) totaled 45 million metric tons of carbon dioxide equivalents (NDEP 2012a). This was 0.7 percent of 2010 US greenhouse gas emissions (NDEP 2012a).

The major sectors contributing to Nevada's greenhouse gas emissions in 2010 were as follows (NDEP 2012a):

- Electric power generation (38 percent)
- Transportation (34 percent)
- Industrial processes (12 percent)
- Agriculture (3 percent)
- Commercial and residential (13 percent)

Sources of greenhouse gas emissions in the planning area include wildfires and prescribed burns, vehicles (including OHVs), construction and operation for mineral and energy development, and grazing livestock, wild horses, and burros.

Resource Changes

Nevada has experienced a minor increase in temperature, increased precipitation, shortened snow seasons, and more storms overall over the last century (NOAA 1997); EPA estimates that average annual temperature in the Southwest has increased 1.5°F (EPA 2014b). Precipitation patterns along Nevada's Sierra Mountains are strongly influenced by El Niño events, which are caused by warmer than normal surface temperatures in the equatorial Pacific Ocean. Historically, moderate to strong El Niño episodes have had ambiguous impacts in the northern half of Nevada with near normal precipitation occurring (NOAA 1997). Warmer and more arid conditions, coupled with a shorter snow

season, have led to limited water supplies and severe drought in parts of the state. By 2100, the average temperature in Nevada is predicted to increase by 3 to 4°F in the spring and fall and by 5 to 6°F in the summer and winter. El Niño also is predicted to increase in frequency and duration as a result of global climate change. These temperature changes will affect evaporation and precipitation in the state, likely resulting in the decreased availability of water (National Conference of State Legislatures 2008).

Nevada's gross greenhouse gas emissions have risen faster than those of the US, increasing almost 30 percent from 1990 to 2010 (NDEP 2012a) compared to 10 percent for the US over that same time period (EPA 2014a). The NDEP 2012 report stated that gross greenhouse gas emissions grew by approximately 1.5 million metric tons per year from 1990 to 2005, but that this trend reverted in 2006 and emissions started declining at a rate of 1.8 million metric tons per year. The report attributed this downturn to the decommissioning of the coal-fired Mojave Generating Station and the economic downturn (NDEP 2012a).

Rapid population growth has been the most important driver in greenhouse gas emissions growth in Nevada. Much of this population growth has taken place near Las Vegas, which also adds to emissions in the state through air travel. The majority of the growth in greenhouse gas emissions came from transportation and electricity generation (EPA 2012a).

Climate change has produced existing and anticipated effects on the following resources in the planning area:

- Soils and Water resources
- Vegetation
- Fish and wildlife
- Threatened and endangered species
- Wild horses and burros (through changes in vegetation and soil)
- Livestock grazing (through changes in vegetation and soil)
- Tribal interests (through changes in vegetation and soil and their effects on availability of traditionally used plants)

Rapid Ecoregional Assessment

The BLM initiated the Central Basin and Range Rapid Ecoregional Assessment in 2010 and the findings were made public in 2013. The Rapid Ecoregional Assessment is intended to provide science-based information and tools for land managers and stakeholders to consider in subsequent resource planning and decision making processes. The planning area is wholly within the Central Basin and Range Ecoregion. The Central Basin and Range Rapid Ecoregional Assessment described and mapped conservation elements, including regionally important habitats, distributions of species of concern, and sensitive soils. The

Rapid Ecoregional Assessment analyzed stressors to conservation elements from four overarching environmental change agents, including climate change, at a broad scale (BLM 2013h).

Using natural climatic variation from 1900 to 1979 as a baseline, two forms of climate analyses were conducted for two time slices: the 2020s (near-term) and the 2050s (mid-century). The analyses included an evaluation of climate space trends across the ecoregion and an analysis of potential change in climate envelopes for selected terrestrial conservation elements for the mid-century time slice. Climate envelope analysis first describes the set of values for temperature and precipitation variables that characterize the current distribution of a given conservation element. Then, the same combination of variables is mapped using climate forecasts for upcoming decades. The climate envelope analysis primarily focused on terrestrial conservation element distribution, with a focus on widely distributed species and major vegetation assemblages. **Figure 3-1**, Climate Trends in 2025, displays projected near-term climate trends within the planning area.

The comparison of forecasted to current climate envelope distributions only provides one indication of the direction and magnitude of potential climate-induced stress for a given conservation element. Therefore, bioclimate envelope modeling provides correlative predictions of geographic ranges under future climate scenarios, not a mechanistic understanding of the processes guiding how plant and animal communities will respond, which will likely vary by type and location, thus leading to uncertainty when considering climate effects to resources and resource uses. Actions aimed at increasing or maintaining habitat resistance and resiliency to climate change effects are important. Thus using an adaptive management framework based on long-term monitoring datasets for land use planning is a key to addressing this uncertainty.

Based on the Rapid Ecoregional Assessment findings for the near term, climate space trends indicate the potential for extreme growing season temperatures throughout the vast majority of the ecoregion, including the planning area.

The Rapid Ecoregional Assessment indicates that many grazing allotments and herd management areas (HMAs) are projected to experience significant temperature increases, primarily in late spring through early fall, especially in the lower elevation basins within the planning area. This indicates that there are potential economic risks to some local communities and counties between now and mid-century.

Generally, sagebrush obligate species have higher loss in climate envelope (climate variability experienced during the 20th century projected to change) indicating that the vast 'sagebrush sea' could see increasing predominance of salt-desert scrub, particularly in the lowest-elevation basins.

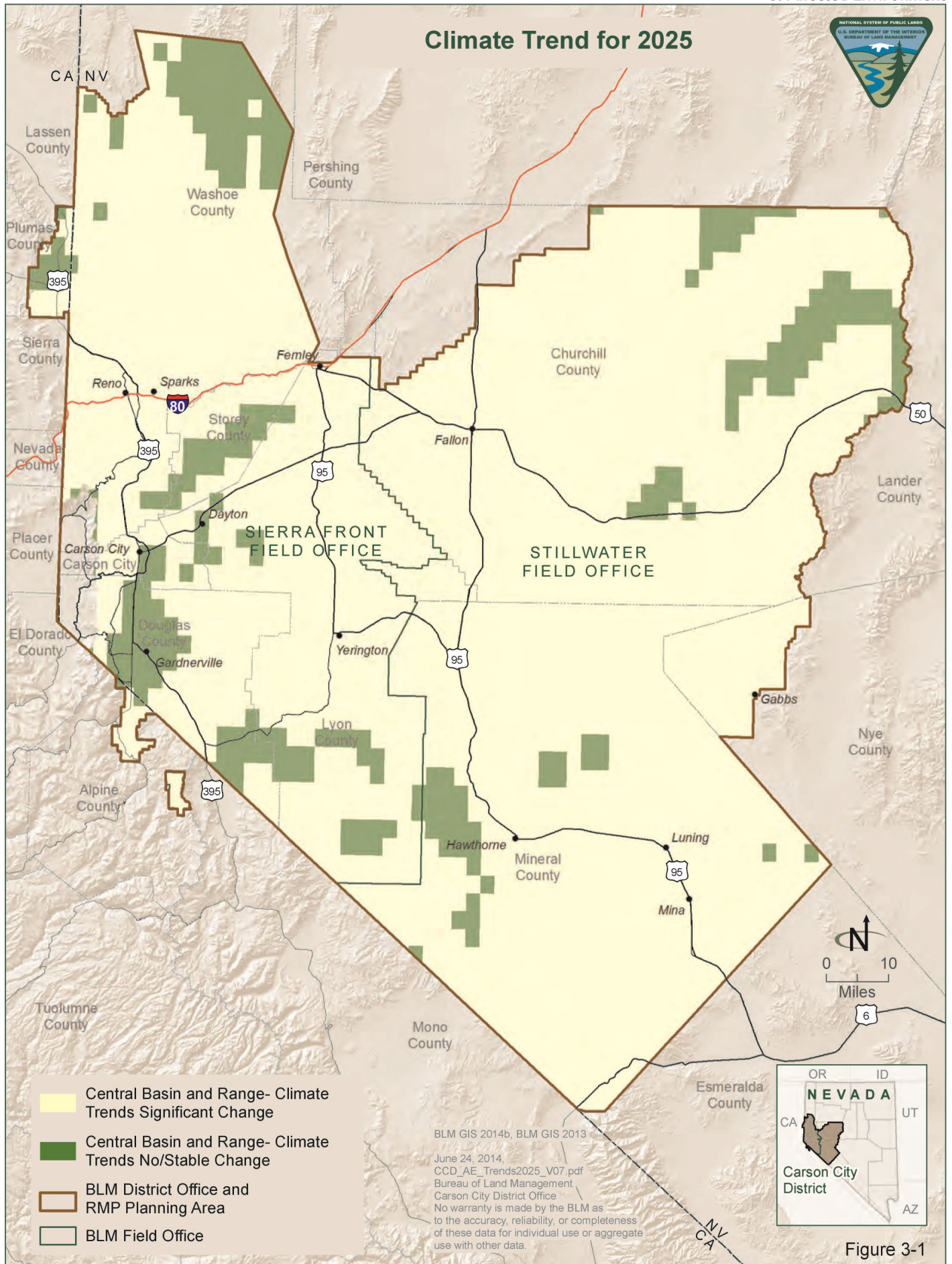


Figure 3-1

There is potential for species associated with salt desert scrub habitat to replace lower elevation sagebrush species such as big basin sagebrush, which in turn may replace mountain sagebrush species, ultimately diminishing species diversity as a whole throughout the planning area.

The climate change analysis and data available for the Rapid Ecoregional Assessment was not conducive to assessing impacts on aquatic resources. However, based on references cited in the Rapid Ecoregional Assessment, forecasted changes for temperature, and to a lesser degree precipitation, would be expected to have short and long-term effects on aquatic resources. Primary potential impacts are as follows:

- Stream and riparian areas drying earlier in the season
- Shrinkage of perennial stream flows or open water sources
- Higher water temperatures
- Reduced groundwater recharge
- Loss of riparian vegetation at lower elevations where seasonal flows determine distribution
- Reduced discharge to springs and seeps

Climate Space Trends Summary

The following summarize the climate space trends analysis:

- Three climate variables were examined with the PRISM and EcoClim datasets.
- Near-term and mid-century: Results for precipitation suggest no strong trend toward either wetter or drier conditions in any month for the Central Basin and Range, or the planning area, with the exception of a slight increase in summer monsoon-style rains toward the south and east of the Central Basin and Range and potentially the southern part of the planning area (stems from high baseline variability and modeling limitations for precipitation).
- Near-term: July to September minimum temperatures are predicted to exceed one standard deviation beyond 20th Century baseline for 90 percent of Central Basin and Range, including the planning area (5 percent of Central Basin and Range for November through June).
- Near-term: July, August, and September maximum temperatures are predicted to exceed 1 standard deviation over 50, 65, and 70 percent of the Central Basin and Range, respectively.
- Near-term: Predictions are variable specific to the planning area but maximum temperature extremes forecasted less than or equal to 6 degrees in some areas.

- Mid-century: Minimum temperatures are predicted to exceed 1 standard deviation for most of the Central Basin and Range, including the planning area.
- Mid-century: July to September minimum temperatures are predicted to exceed 2 standard deviations for 90 percent of the Central Basin and Range, including the planning area.
- Mid-century: July and August maximum monthly temperatures predicted to exceed 2 standard deviations for 90 percent and 85 percent of the Central Basin and Range area, respectively.
- Mid-Century: Predictions are variable specific to the planning area but maximum temperature extremes forecasted less than or equal to 9 degrees in some areas.

Selected Bioclimate Envelope Modeling Summary (only conducted for mid-century time slice)

Bioclimate envelope modeling is based on a species' or vegetation assemblage's current distribution. But final projections may not line up with current distributions because the projected climate envelope may be the outside of current distribution. Contraction is where current climate characteristic of the species or vegetation assemblage is projected to be replaced by a significantly different climate regime. Expansion indicates where the current climate regime is forecasted to occur outside of current distribution by 2060. One could initially view these areas as potential expansion zones for this characteristic climate regime. Maintaining climate indicates areas where the forecasted change overlaps with current distribution. While climate change analysis for the mid-century is beyond the temporal scope of this RMP, long-term monitoring and adaptively planning for projected trends are important to consider:

- Mule deer seasonal ranges (winter and summer) are forecasted to experience climate contractions at the lower elevations over much of the planning area.
- Current climate for year-round mule deer range is projected to be maintained or expand in the planning area.
- Current distributions of Bighorn Sheep are mostly expected to maintain current climate in the planning area.
- Current distributions of Greater Sage-Grouse are not projected to maintain current climate, except for a few high elevation spots in the north and northeastern portion of the planning area.
- Current climate for mixed salt desert scrub vegetation assemblage is projected to be maintained or expand over much of the planning area.

- While not uniform across the planning area, big basin sagebrush communities expected to lose climate at low elevations, and maintain or expand at higher elevations.
- Montane sagebrush communities primarily forecast to lose current climate except in some higher elevation areas in the southeast and northeast portions of the planning area (parts of Wassuk Range, Clan Alpine Mountains, and Desatoya Mountains).

3.2.3 Soils and Water Resources

Soils

Many resources and resource uses depend upon suitable soils, indicating that soil attributes, conditions, and management are important to RMP management decisions. Resources and resource uses dependent upon suitable soils include livestock grazing, wild horse and burro management (through the maintenance of populations at appropriate management levels [AMLs]), wildlife habitat designation, water quality, ROW authorizations, mineral entry, recreational uses, and travel management designations.

When making land management decisions based on soil-related hazards or limitations or when making management decisions that would likely affect soil resources, the CCD evaluates soil surveys available from the NRCS. Through conducting soil surveys the NRCS has classified soils into map units using the boundaries of Major Land Resource Areas, which are geographically associated land resource units that share common characteristics related to the physiography, geology, climate, water resources, soils, biological resources, and land uses (NRCS 2009). Each soil map unit consists of an individual soil or a group of soils (called a soil series) with similar soil formation. Soil series are grouped together based on soil characteristics that are described through chemical and physical properties, range of elevation, climate, runoff capabilities, erosion hazards, associated native vegetation, wildlife habitat use, and suitability for community development.

In addition to mapping the soils in map units, the NRCS evaluates the soil's susceptibility to wind erosion and suitability for farmland, and may classify soils as sensitive based on various parameters, including the presence of biological soil crusts and salinity.

Ecological Site Descriptions (NRCS 2012a) were subsequently developed for the soils within each Major Land Resource Area (NRCS 2012b). Ecological Site Descriptions are a description of the original or natural plant community that can be supported at a given site based on multiple environmental factors such as soils, topography, and climate. State and transition models have been developed for some Ecological Site Descriptions and are currently being developed in others. State and transition models describe the variability of a particular site and can help determine if an ecological threshold has been crossed. An

ecological threshold is the boundary between two soil states. The ecological threshold is crossed when one or more ecological processes that support the initial state have been irreversibly changed. The term irreversible implies that the restoration of a site to a state cannot be accomplished through natural events or through a simple change in management. Active restoration such as brush management, range planting, or prescribed burning must be conducted before the return to a previous state is possible. Once a threshold is crossed, disequilibrium among one or more of the primary ecological processes (e.g., soil and site stability, hydrologic function, and biotic integrity) exists and is expressed through changes in the vegetative community and eventually the soil resource. If vegetation is lost, the hydrologic function is affected by loss of infiltration and soil and site stability is affected by loss of hydrologic function and loss of the natural plant community. When the system reestablishes equilibrium among its primary ecological processes, a new stable state is formed. Knowledge found in Ecological Site Descriptions can be invaluable for resources uses and management such as habitat restoration, livestock grazing, and wild horse and burro management.

Current Conditions

Third-order soil surveys provided by the NRCS cover most of the planning area. These surveys indicate that there are over 7,000 different soil units within planning area, which is the result of varying climatic, vegetative, topographic, and geographic conditions. Key landscape characteristics in the planning area include dunes, playas, deflation basins, cavernous weathering, angular slopes (with and without coarse debris), arroyos, pediments, fans, and badlands. Badlands were formed by geomorphic processes predominately found in arid and semiarid systems (NDOW 2012b). Common processes on the landscape include desiccation, wind action, running water, mechanical weathering, and rapid mass movements.

Many soils in the planning area are susceptible to erosion via wind. The NRCS has classified wind erosion ratings using the Wind Erodibility Index and Wind Erodibility Groups. The Wind Erodibility Index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per year per acre expected to be lost to wind erosion. This scale ranges from 0 to 310, with a rating of 310 indicating the highest susceptibility to wind erosion. The Wind Erodibility Group breaks down the Wind Erodibility Index scale into 9 groups, as shown in **Table 3-2, Wind Erodibility Groups**. Acres of soils within the planning area that are classified by Wind Erodibility Group are found in **Table 3-3, Approximate Acres of Soil by Wind Erodibility Group**.

Table 3-2
Wind Erodibility Groups

Wind Erodibility Group 1,3,4,5,7	Properties of Soil Surface Layer	Dry Soil Aggregates More Than 0.84 mm (wt. %)	Wind Erodibility Index (tons/ac/yr)
1	Very fine sand, fine sand, sand, or coarse sand ²	1	310
		2	250
		3	220
		5	180
		7	160
2	Loamy very fine sand, loamy fine sand, loamy sand, and loamy coarse sand; very fine sandy loam and silt loam with 5 or less percent clay and 25 or less percent very fine sand; and sapric soil materials; except Folists.	10	134
3	Very fine sandy loam (but does not meet Wind Erodibility Group criterion 2), fine sandy loam, sandy loam, and coarse sandy loam; noncalcareous silt loam that has greater than or equal to 20 to less than 50 percent very fine sand and greater than or equal to 5 to less than 12 percent clay.	25	86
4	Clay, silty clay, noncalcareous clay loam that has more than 35 percent clay and noncalcareous silty clay loam that has more than 35 percent clay; all of these do not have sesquic, parasesquic, ferritic, ferruginous, or kaolinitic mineralogy (high iron oxide content).	25	86
4L	Calcareous ⁶ loam, calcareous silt loam, calcareous silt, calcareous sandy clay, calcareous sandy clay loam, calcareous clay loam, and calcareous silty clay loam.	25	86
5	Noncalcareous loam that has less than 20 percent clay; noncalcareous silt loam with greater than or equal to 5 to less than 20 percent clay (but does not meet Wind Erodibility Group criterion 3); noncalcareous sandy clay loam; noncalcareous sandy clay; and hemic soil materials.	40	56
6	Noncalcareous loam and silt loam that have greater than or equal to 20 percent clay; noncalcareous clay loam and noncalcareous silty clay loam that have less than or equal to 35 percent clay; silt loam that has parasesquic, ferritic, or kaolinitic mineralogy (high iron oxide content).	45	48

Table 3-2
Wind Erodibility Groups

Wind Erodibility Group <small>^{1,3,4,5,7}</small>	Properties of Soil Surface Layer	Dry Soil Aggregates More Than 0.84 mm (wt. %)	Wind Erodibility Index (tons/ac/yr)
7	Noncalcareous silt; noncalcareous silty clay, noncalcareous silty clay loam, and noncalcareous clay that have sesquic, parasesquic, ferritic, ferruginous, or kaolinitic mineralogy (high content of iron oxide) and are Oxisols or Ultisols; and fibric soil materials.	50	38
8	Soils not susceptible to wind erosion due to rock and pararock fragments at the surface and/or wetness; and Folists.	--	0

Source: NRCS 2009

Table 3-3
Approximate Acres of Soil by Wind Erodibility Group

Wind Erodibility Group	Acres
1	583,200
2	529,600
3	741,000
4	1,512,400
4L	54,200
5	2,485,500
6	580,900
7	1,120,400
8	543,600
Not Classified	283,600

Source: NRCS 2009

The BLM manages uplands within the planning area. These areas tend to have steep slopes, high drainage densities, high relief, and high ruggedness, which increases erosion rates (see **Table 3-4**, Acres of Steep Slopes). When coupled with the climate patterns experienced in the planning area, which include an intense rainfall regime, these characteristics can lead to high sediment loads and run-off rates during storm events. The development of top soil is a slow process in the semi-arid environment of the planning area, and if washed away during a storm event can lead to denuded soils. Denuded soils are susceptible to erosion and headcutting. Headcutting in stream or spring/seep systems ultimately results in draining source water. These related and cumulative stages of soil degradation are a large concern within the planning area. Locations within the planning area where erosion is of concern include Petersen Mountains, Pine Nut Mountains, Virginia Mountains, Warm Springs and Hungry Valley, Sun Valley, Jumbo/Geiger Grade, and portions of Prison Hill, C Hill, and Mullen Pass.

**Table 3-4
Acres of Steep Slopes**

Slope	Acres
0-5	3,430,800
6-10	1,177,000
11-15	174,600
16-20	796,700
21-25	387,000
26-30	80,000
31-35	1,187,500
36-40	922,500
41-45	24,000
46-50	18,300
51-55	320,700
56-60	7,600
61-65	371,600

Source: NRCS 2009

In addition to steep slopes and Wind Erodibility Group classifications, alterations in watershed conditions can result from physical changes to a stream channel as a result of wildfire. For example, a wildfire near Carson City resulted in changes in sediment transport and water quality. The mid-reach of Clear Creek experienced severe erosion, which has incised the stream channel and deposited sediment into lower portions of the creek. Another example following wildfire occurred along US Highway 50 in 2003, and left slopes susceptible to increased sediment runoff. Heavy rains in December 1997 resulted in a large flood event that washed out portions of old US Highway 50 in areas where the road closely parallels the stream. Currently, CCD does not identify potential problem areas of post-fire sediment yield and water quality in drainages near populated areas.

The BLM authorized officer dictates the cattle numbers and length of time with input from the permittee and other interested parties, with meeting soil health standards one of the factors considered when determining appropriate use. The standards for rangeland health involving soils include Standard I: Soils:

Soil processes will be appropriate to soil types, climate, and land form as indicated by:

1. Surface litter is appropriate to the potential of the site.
2. Soil crusting formations in shrub interspaces, and soil compaction are minimal or not in evidence, allowing for appropriate infiltration of water.
3. Hydrologic cycle, nutrient cycle, and energy flow are adequate for the vegetation communities.

4. Plant communities are diverse and vigorous, and there is evidence of recruitment.
5. Basal and canopy cover (vegetative) is appropriate for site potential.

In NEPA documents, the NRCS Soil Survey mapping units are used as indicators for quantifying erodibility, flood prone areas, rangeland health assessments, and potential sediment problems.

Resource Changes

Increases in the degradation of soil resources are in part driven by population growth, popularity of OHV use, cattle grazing, wild horse and burro management, and other surface-disturbing activities. With increased OHV use within the planning area, disturbance effects on soils need to be recognized, especially on slopes and highly erodible soils. Vehicles exert significant compressional and shear forces. Vehicles often compact soils, causing scour and sedimentation of drainages. Another driver for increased degradation of soil resources results from hoof action by wildlife, livestock and wild horses as a result of water scarcity. Hooves exert compressional and shear forces on soils, causing compaction of the resource. Other activities such as ROW authorizations and mineral development have also increased and are contributing to sediment yields and erosion susceptibility.

Soil resources are currently evaluated on a case-by-case basis in NEPA documents. This may or may not adequately provide for future protection of the resource. The degree of degradation to soils is expected to be high under current management.

It is widely recognized that soils and climate are components of an ecological site and that the interaction between the soils, climate, and vegetation are reflected in the ecological site description. Different responses to timing and amount of precipitation and temperature may mean a shift in biological soil crust species composition. Biological soil crusts form a matrix that stabilizes and protects soil surfaces from erosive forces (BLM 2001a). Since the planning area is currently in a winter-precipitation dominated regime with a predicted increase in summer rain, effects of climate change may be reflected in different soil crust composition.

Water Resources

Water resources include water of sufficient quality that is physically and legally available for use. Within the planning area, water supply is limited by natural processes. Due to population growth and development, demand for water has increased throughout the district over the past few decades. The amount, distribution, intensity, and type of precipitation has significant impacts on both surface and groundwater resources. Water resources in the planning area

mainly consist of upland spring and seep sources, a few small creeks and streams, and shallow bodies of intermittent surface water.

Water Quality

Based on the authority of the federal Clean Water Act, the State of Nevada has established surface water quality standards as presented in the Nevada Administrative Code 445A. Narrative standards that address the general physical, chemical, and biological characteristics of all surface waters in the state are listed in Nevada Administrative Code 445A.121. In addition to the standards applying to all surface waters, specific beneficial uses and standards have been established for waters categorized as Class A, B, C, or D waters. Class A waters are relatively undisturbed by humans and are located away from activities such as industry or intensive agriculture, Class B waters are only moderately influenced by human activities, Class C waters are considerably influenced by human activities, and Class D waters are highly impaired due to human activities. The uses and standards for class waters are presented in **Appendix G**, Nevada Class Waters Description.

Based on Nevada Administrative Code 445A, a waterbody not meeting the standards may be listed as impaired on the 303(d) list, published by NDEP in a biennial report. The State of Nevada also prepares a 305(b) report summarizing water quality assessment information. The Tributary Rule is applicable to the BLM, since it provides protection for those surface waters that are not specifically defined as a class or designated water. Additionally, the Clean Water Act's antidegradation policy is addressed in the 303(d) list to ensure maintenance of high quality waters. Standards for toxic materials (Nevada Administrative Code 445A.123 to 445A.127) apply to designated waters and waters such as the Truckee, Carson, and Walker Rivers (Nevada Administrative Code 445A.145 to 445A.225). For California, the combined 305(b) and 303(d) report is called the California 303(d)/305(b) Integrated Report. Measurements to evaluate protection and restoration efforts are carried out by the Surface Water Ambient Monitoring Program. The Surface Water Ambient Monitoring Program implements the Lahontan Basin Plan, covering lands within the planning area, and the California Toxics Rule established under the California Water Code (Article 3 174-188.5). The Surface Water Ambient Monitoring Program determines compliance with chemical and physical water quality objectives, and develops indices of biological integrity. The Lahontan Region, which is the second largest Water Board region in California, spans eastern California from the Oregon border to the Mojave Desert. Total maximum daily loads incorporated into Lahontan Water Board's Basin Plan include Revised Sodium-Related Standards for the Carson and Walker River Watersheds and Truckee River Sediment Total Maximum Daily Loads (SWRCB 2008). California's 2008-2010 lists of water quality limited segments still requiring a total maximum daily loads report includes the East Fork of the Carson River for Total Dissolved Solids.

Both states focus efforts on their most important water bodies, such as municipal water supplies and critical wildlife habitats. They do not have the capability to designate uses and establish specific standards for every water body, especially in the uplands. For example, many of the water bodies that concern the BLM during rangeland health evaluations are small, remote springs, seeps, and creeks that do not have designated uses or specific standards.

The isolated springs and seeps within the planning area draw from general narrative standards of visual and olfactory senses within the 2007 Standards and Guidelines for Rangeland Health Assessment. Rangeland Health Assessments point toward Nevada Administrative Code 445A relative to the area being assessed. With consideration to what is present on the landscape, narratives mostly apply within the planning area. Standard 3: Water Quality is described below. Standard 1: Soils, Standard 2: Riparian/Wetland, and Standard 4: Plant and Animal Habitat are described in **Section 3.2.4**, Vegetation (soils have a vegetative component) and Standard 5: Special Status Species Habitat is described in **Section 3.2.6**, Special Status Species.

Standard 3: Water Quality. Water quality criteria in Nevada or California State Law shall be achieved or maintained, as indicated by the following:

- Chemical constituents do not exceed the water quality standards.
- Physical constituents do not exceed the water quality standards.
- Biological constituents do not exceed the water quality standards.
- The water quality of all water bodies, including groundwater located on or influenced by BLM-administered lands, will meet or exceed the applicable Nevada or California water quality standards. Water quality standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and antidegradation requirements set forth under state law, and as found in Section 303(c) of the Clean Water Act.

Unique factors that affect water quality in the planning area include:

- Locally high concentrations of pollutants (e.g., boron, arsenic, lead, mercury, and other heavy metals)
- Historic mining sites
- Evaporative concentration in desert environments
- Volcanic and geothermal sources

Within the planning area uplands, nonpoint source impacts potentially result from transportation corridors (railways and roads), urban runoff and construction-related impacts from rapid land development, recreation developments (official and unofficial), livestock grazing, use of herbicides for

weed control, numerous abandoned mines, septic systems, and wildland fires. Sedimentation resulting from hydro-modification activities such as reservoir management or irrigation is also a concern, as are impacts on wetlands and riparian areas from fill or channelization.

Water Rights

Nevada's water law is one of the most comprehensive water laws in the West. This law is based on prior appropriation and beneficial use. Prior appropriation grants senior water rights and is also known as first in time, first in right. This concept helps protect senior water uses when water rights are allocated to new users (NDWR 2013).

The State Engineer oversees water rights within Nevada; the BLM has no authority over water rights. The BLM is authorized to apply to the Nevada State Engineer to appropriate water for beneficial use for BLM programs and projects. Beneficial uses recognized by the State of Nevada include wildlife (including wild horses and burros); establishing and maintaining wetlands, fisheries, and other wildlife habitats; recreation; and quasi-municipal, irrigation, domestic, environmental, and storage. See Nevada Revised Statutes 533.023 533.030, 533.035, 533.040, 533.055, 533.070, 533.075, 533.367, 533.437, 533.490 for limitations and exceptions as well as various State Engineer and Court Decisions. Nevada Revised Statutes 533.040 ended historical livestock water rights held in cooperative agreements with grazing permittees by the BLM. The BLM has authority to approve or not approve development of the point of diversion and place of beneficial use on BLM-administered lands. For example, a water right permit may be issued by the State of Nevada, but in order to develop the water, the BLM must assess the full spectrum of potential impacts of the development on the BLM-administered land.

Federal reserved water rights are a judicial creation; they are derived from federal, not state, law. A federally reserved water right includes water rights on BLM-administered lands reserved for a particular governmental purpose. On reserved or withdrawn lands reserved water rights allow the federal government to remove water from availability for appropriation under state law, and to establish and exercise water rights in accordance with federal law. Reservation of water is inferred if water is necessary to accomplish the purposes for which the land reservation was created.

Water right decrees may address the amount of water to which each party is entitled, the source of the water, the area to which it may be applied, and the priority date for each use. Such decrees govern the Truckee, Carson, Walker, and Humboldt Rivers, as well as most of the streams that run off the east slope of the Sierra Nevada.

California uses a hybrid system for water right allocations, originally recognizing riparian rights but later converting to a system of appropriation while preserving existing riparian rights. The hybrid system, called the California Doctrine, gives

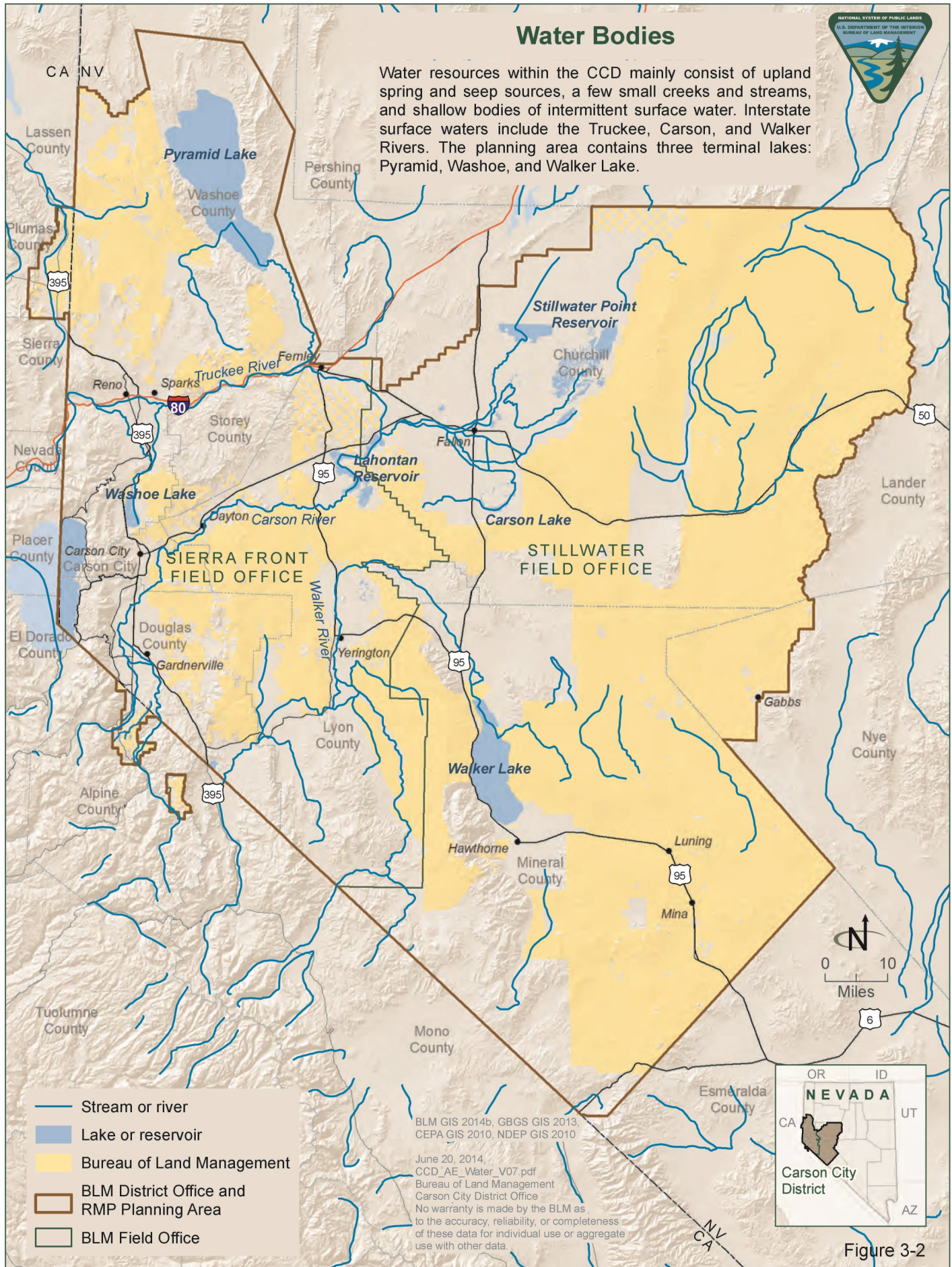
landowners bordering a waterway certain appurtenant rights for “reasonable use” of the water on land adjacent to the waterway. If there is insufficient water to satisfy the reasonable needs of all riparian areas, all landowners must reduce usage of water in proportion to their rights. Riparian rights do not need to be put to beneficial use in order to remain active, meaning that landowners may initiate new uses at any time and others must adjust their usage in response (SWRCB 2011).

Current Conditions

Surface Water. The interstate surface waters of the Truckee, Carson, and Walker Rivers are within the planning area. These rivers are displayed in **Figure 3-2, Water Bodies**. The Truckee River begins at the outlet of Lake Tahoe, flows through the Sierra Nevada Mountains into Nevada, through Reno, and along the northern end of the Carson Range. At Derby Dam the Truckee River is diverted into two sections. The Truckee River turns north, flowing along the east side of the Pah Rah Range and empties into Pyramid Lake, and the Truckee Canal continues east and flows through Fernley and then turns south and empties into Lahontan Reservoir. The lower reach east of Reno is fish habitat for the cui ui and Lahontan cutthroat trout; these native fish species are listed as endangered and threatened, respectively. The Truckee River Basin is approximately 3,120 square miles, with less than 20 percent managed by the BLM. To the south, the Carson River rises in two forks in the Sierra Nevada; the East Fork begins in Alpine County southeast of Markleeville, and the West Fork begins near Carson Pass. After these forks join in Nevada, the Carson River flows northeast until it is impounded by the Lahontan Dam. From there water continues out into the Carson Sink. The Carson River Basin is approximately 3,990 square miles, with approximately 35 percent managed by the BLM.

The Walker River forms in Lyon County, south of Yerington by the confluence of the East Walker and West Walker Rivers. It initially runs north but then turns southeast along the east side of the Wassuk Range. Most of the flow is used for irrigation, leaving very little to enter Walker Lake. The Walker River Basin is approximately 3,130 square miles, with approximately 40 percent managed by the BLM.

The amount of BLM-administered land within each of these river basins is significant, even though the BLM does not always manage land adjacent to the river. On average, the Truckee River yields 804 cubic feet per second, the Carson River yields 389 cubic feet per second, and the Walker River yields 164 cubic feet per second annually (USGS 2012a). Consideration given to flow rates highlight the significance of public land management on vegetative cover, on-site moisture, and erosion.



Groundwater. There are 14 Hydrographic Regions in Nevada. The three major water basins within the planning area are the Truckee, Carson, and Walker River Basins. The most significant groundwater sources in the planning area are found in unconsolidated sediments and volcanic rocks beneath valley floors. These volcanic rocks and saturated sediments under alluvial fans and the valley floor transmit and store large volumes of groundwater into the most important aquifers in the planning area and contain shallow, intermediate, deep, and basalt aquifers. Geothermal aquifers are an important renewable resource and are located throughout the planning area (Maurer et. al. 1996). A complete list of the hydrographic regions and basins in the planning area are housed at the Nevada Division of Water Resources. Real time and historic data of groundwater within the planning area are in US Geological Survey (USGS) databases and can be accessed at <http://waterdata.usgs.gov/nv/nwis/current/?type=gw>.

Water Quality

305(b) and 303(d) Lists. The State of Nevada's 305(b) report suggested water quality improved in the 2004 reporting cycle and has maintained this improvement more recently. This was due to removal of some point sources and implementation of more stringent standards on other existing point sources. Most exceedances were seasonal and were of a natural condition. The 305(b) report was inconclusive of nonpoint source loads, such as in the case of Perry Canyon, which is a location of historical mine issues, including acid mine drainage on public and private land within the planning area. Similarly, California's Surface Water Ambient Monitoring Program findings indicate sampled waters were generally of high quality, with approximately 90 percent of the results in compliance with the Lahontan Basin Plan's numeric standards.

The Nevada 2008-10 Water Quality Integrated Report (NDEP 2013) contains an assessment for 541 waterbody segments in the State of Nevada. During this sampling period, there were 165 segments on the 303(d) list of impaired waters. Common impairments in lakes and reservoirs were from phosphorus, turbidity, and total dissolved solids. Stream impairments were most commonly from phosphorus, temperature, turbidity, and total suspended solids. A waterbody will be delisted if it meets certain requirements. For example, a waterbody can be delisted if the segment has met water quality standards or if the standards have changed within the current assessment cycle. During this assessment, 176 waterbody segment/parameter combinations were delisted, and 33 waterbodies were removed from the 303(d) list for all parameters. The planning area contained 51 waterbody segments on the 303(d) list within the Truckee, Carson, and Walker River watersheds. These areas also had 31 waterbody segments with parameters delisted due to improving conditions (NDEP 2013).

Rangeland Health Assessments. As part of implementing the 2007 Standards and Guidelines for Rangeland Health, BLM employees conducted Rangeland Health

Assessments on 38 allotments comprising approximately 2,113,771 acres across the planning area between 2003 and 2012. The planning area was assessed for adherence to Standard 3: Water Quality as follows:

- 12 percent (245,180 acres) did not require this standard;
- 63 percent (1,335,373 acres) was rated as fully meeting the standard; and
- 25 percent (533,218 acres) had problems of enough significance to not meet the standard.

Of the 38 allotments that were assessed in the planning area, 8 did not have water sources on BLM-administered land and were not included in any Riparian Functional Assessments. Of the 184 springs, seeps, and streams that were analyzed, 29 percent were found in proper functioning condition on the day of the field visit.

Water Supply

Surface Water. The BLM has incomplete undigitized spring inventory data. Inventory data from 1979 to 1981 include location, flow rates, water quality, and accessibility. Color-coded 7.5-minute maps have been used to create a historic spring layer in GIS for the Stillwater Field Office. Spring inventory forms and 7.5-minute maps have not been digitized for the Sierra Front Field Office. Historical and real time flow rates of surface water in streams, rivers, and lakes throughout the planning area can be found on the USGS website at <http://waterdata.usgs.gov/nv/nwis/rt>.

Surface water in the planning area is water collected on the ground or in a stream, river, lake, or riparian/wetland. Surface water is naturally replenished by precipitation and naturally lost through evaporation and sub-surface seepage into the ground. Rivers, streams, or creeks may be perennial, with continuous flow year round during years of normal rainfall; intermittent, with cessation of flow for weeks or months each year; or ephemeral, with flows observed for hours or days following precipitation. The three terminal lakes within the planning area are at-risk natural desert terminal lakes with unique ecosystems. The Truckee River Operating Agreement is in place to help Pyramid Lake receive the water it needs, and actions for Walker Lake include the purchase of water rights and ceasing irrigation on agriculture lands to help deliver more water. The BLM is involved in these restorative or sustainable actions indirectly, with the purchase and implemented work on the Mustang and 102 Ranches along the Truckee River's banks for restoration of river sinuosity and overall health. Another unique case of managing surface water supply within the planning area is Winters Ranch in Washoe Valley. The three creeks crossing Winters Ranch contribute an average annual 8,260 acre-feet of water to Washoe Lake and eventually the Truckee River, and approximately two-thirds of the average annual water yield of these creeks are managed by the BLM.

Groundwater. Activities in the planning area do not generally impact groundwater availability; however, groundwater availability is looked at on a case-by-case basis. Impacts on groundwater are monitored as necessary to uphold the multiple use and sustained yield mandates and to support implementation of restorative or exploratory projects on BLM-administered land. Examples include hydrologic studies of groundwater movement and supply for management decisions on Winters Ranch, and monitoring for fuels treatments in Porter and Dalton Canyons in the Desatoya Mountains.

Water Rights

Since 2005, water rights held by the CCD have been limited by Nevada Revised Statutes 533.040 to exclude livestock watering. The BLM authorizes ingress and egress to springs with livestock water rights on BLM-administered lands. Current water rights held by the CCD include permits and certificates for wildlife. The BLM applies for wildlife water rights on BLM-administered lands and handles these rights on a case-by-case basis on the professional judgment of whether or not a water source needs to be protected, developed, or maintained for wildlife use. In HMAs, the BLM may hold water rights for wild horses; however, the debate over wild horses and burros qualifying as wildlife pertaining to water rights has not been resolved in the courts. Previous cooperative agreements between grazing allotment permittees and the CCD for holding stockwater rights were frozen by Nevada Revised Statutes 533.503. Therefore, the BLM can no longer apply for new water rights, nor can the BLM change an existing right. The State Engineer can still issue joint permits or certificates of appropriation so long as one of the joint holders satisfies Nevada Revised Statutes 533.503.

Resource Changes

Narrative standards for water quality cited above have no accessible data to compare, therefore a trend is unknown.

Surface water availability in the planning area is highly related to seasonal flows and climate, with cycles of normal, below, and above years.

Trends for groundwater are related to use, especially in populated areas, where increased pumping of water over time decreases the water table level.

The majority of riparian and wetland areas that were functioning at risk were trending downward from the previous assessment.

There is no apparent trend relating to water rights in the planning area.

Given current management, overall water resources will continue on a flat trajectory or decrease due to the increase and/or concentrated use. Demand may outrun supply, if unfettered development continues.

3.2.4 Vegetation

Vegetation provides an enormous variety of functions in an ecosystem, and also provides for a variety of human and animal uses. Vegetation stabilizes soils, prevents erosion, reduces carbon dioxide, releases oxygen, increases species diversity, and provides habitat and food for animals and resources for human use (Prevey et al. 2010; Connelly et al. 2004). A vegetative community is the basic unit of vegetation that allows for the representation of an assemblage of ecologically interrelated vegetative species (Daubenmire 1968).

Ecosystems reflect complex sets of interactions between plants, animals, soil, water, air, temperature, topography, fire, and humans. Influences exerted on one component affect other components in the system. Vegetation provides many functions within ecosystems, including habitat for wildlife. Many of the BLM's land management policies are directed toward managing for healthy vegetative communities that support resistant and resilient ecological systems.

The BLM has adopted an eco-regional approach to landscape assessment and management: "The fundamental concept is that ecological regions can be identified through the analysis of the patterns and that physical and biological phenomena (i.e., physiography, geology, vegetation, climate, soils, and hydrology) either affect or reflect differences in ecosystem quality or quantity" (BLM 2012a).

The planning area is primarily located in the Central Basin and Range ecoregion, which encompasses 120,000 square miles (BLM 2012a). The Central Basin and Range ecoregion is internally drained and is characterized by north-south trending mountain ranges that are separated by broad xeric basins, valleys, and salt flats. Elevations range from 3,350 feet to more than 13,120 feet. There is a significant rain shadow effect from the Sierra Nevada Mountains to the east and the Rocky Mountains to the west that create an arid climate throughout the ecoregion.

Current Conditions

Vegetation is measured in many ways to provide information on the health of a community. The compilation of all the data relating to any one area allows the BLM to complete a Standards Determination in which the applicable standards are rated as either being met or not being met. If they are not being met, the causes are examined, and management is changed to address those causes.

Standards and Guidelines for Rangeland Health

There are five standards in the 2007 Standards and Guidelines for Rangeland Health (BLM 2007a). Below are listed the standards that have vegetation components and can be found in their respective sections. **Appendix D**, Nevada Standards for Public Land Health and Guidelines for Livestock Grazing Management, contains a full description of the standards and guidelines.

Standard 1. Soils. The goal to be achieved in this standard is soil stability and function applicable to the potential of the soil being evaluated. Soil processes will be appropriate to soil types, climate, and land form, as indicated by:

- Surface litter is appropriate to the potential of the site.
- Soil crusting formations in shrub interspaces, and soil compaction are minimal or not in evidence, allowing for appropriate infiltration of water.
- Hydrologic cycle, nutrient cycle, and energy flow are adequate for the vegetation communities.
- Plant communities are diverse and vigorous, and there is evidence of recruitment.
- Basal and canopy cover (vegetative) is appropriate for site potential.

Standard 2. Riparian/Wetlands. The goal to be achieved in this standard is riparian and wetland systems that are in properly functioning condition. This means they have properly functioning hydrologic, vegetational, and erosional/depositional (soils) attributes and processes appropriate to their potential, as indicated by:

- Sinuosity, width/depth ratio, and gradient are adequate to dissipate streamflow without excessive erosion or deposition.
- Riparian vegetation is adequate to dissipate high flow energy and protect banks from excessive erosion.
- Plant species diversity is appropriate to riparian-wetland systems.

Standard 4. Plant and Animal Habitat. The goal is to have populations and communities of native plant species and habitats for native animal species that are healthy, productive, and diverse, as indicated by:

- Good representation of life forms and numbers of species.
- Good diversity of height, size, and distribution of plants.
- Number of wood stalks, seed stalks, and seed production adequate for stand maintenance.
- Vegetative mosaic, vegetation corridors for wildlife, and minimal habitat fragmentation.

As part of implementing the 2007 Standards and Guidelines for Rangeland Health for the Sierra Front-Northwestern Great Basin Area (BLM 2007a), BLM employees conducted Rangeland Health Assessments in 38 allotments across the planning area between 2007 and 2012 in which they assessed the current condition of the vegetation and overall land health. Approximately 2,113,771 acres were assessed for the rangeland health standards. Results of the

Rangeland Health Assessments are described below. The primary issues influencing vegetation are discussed at the end of this section under *Trends and Forecast*.

The planning area was assessed for adherence to Standard 1: Soils as follows:

- 96 percent (2,025,248 acres) was rated as fully meeting the standard.
- 4 percent (88,523 acres) had problems of enough significance to not meet the standard.

The planning area was assessed for adherence to Standard 2: Riparian and Wetlands as follows:

- 13 percent (267,345 acres) did not require this standard.
- 18 percent (388,002 acres) was rated as fully meeting the standard.
- 69 percent (1,458,424 acres) had problems of enough significance to not meet the standard.

The planning area was assessed for adherence to Standard 4: Plant and Animal Habitat:

- 42 percent (884,578 acres) was rated as fully meeting the standard.
- 58 percent (1,229,193 acres) had problems of enough significance to not meet the standard.

Vegetative Communities

The ecological systems discussed below are those that provide the most important land cover across the planning area. Vegetation can be generally characterized by plant community types (associations). A terrestrial ecological system is defined as a group of plant community types (associations) that tend to co-occur within landscapes with similar ecological processes, substrates, and/or environmental gradients.

Based on SynthMap GIS data (Peterson 2008), which uses the Southwest Regional Gap Analysis Project land cover descriptions, the planning area can be grouped into vegetation communities. These vegetation communities represent different vegetation and habitat types and potentials. **Table 3-5**, Vegetation Communities, depicts the estimated acreage within the planning area for each vegetation community. **Figure 3-3**, Vegetation Communities, portrays the vegetation communities throughout the planning area.

**Table 3-5
Vegetation Communities**

Vegetation Community*	Percent of District	Percent of BLM-administered land	Acres in District	Acres (of BLM-administered land)
Sagebrush	28	33	2,519,440	1,234,300
Intermountain Cold Desert Scrub	41	48	3,644,955	2,604,200
Forests/Woodlands	15	14	1,392,186	692,800
Annual Grassland/Invasive Species	1	1	101,633	58,600
Riparian Systems	4	<1	322,881	15,700
Special Assemblages	<1	<1	26,114	8,500
Other	10	4	934,271	187,000
<i>Total</i>	<i>100</i>	<i>100</i>	<i>8,941,480</i>	<i>4,803,300</i>

* Vegetation within the planning area has been characterized by using the SyntheMap raster data set developed by NatureServe for the Natural Heritage Program (Peterson 2008). The BLM has chosen to use the SyntheMap dataset over other datasets such as Southwest Regional Gap Analysis Project, Gap, and LANDFIRE for the following reasons:

- SyntheMap used data from Southwest Regional Gap Analysis Project and LANDFIRE as the basis for refining the vegetation typing done by these projects.
- BLM specialists reviewed the data set and concurred that it characterized current vegetation more consistent with knowledge of actual field conditions.
- SyntheMap will improve overtime because it is continuously updated as field knowledge becomes available.

Sagebrush

There are several different types of sagebrush systems throughout the planning area. Elevation, amount of precipitation, and type of soil are all important factors on the species present. Although some other types are present throughout this vegetative community, the predominant species assemblages are detailed below.

Great Basin Xeric Mixed Sagebrush Shrubland—This system occurs on dry flats and plains, alluvial fans, rolling hills, rocky hillslopes, and saddles, usually at lower elevations between 3,200 and 8,500 feet. These sites are dry, with vegetation dominated by black sagebrush (*Artemisia nova*) and low sagebrush (*Artemisia arbuscula*); these sites may also have rabbitbrush (*Chrysothamnus* sp.), shadscale (*Atriplex confertifolia*), Mormon tea (*Ephedra* spp.), spiny hopsage (*Grayia spinosa*), greasewood (*Sarcobatus vermiculatus*), and horsebrush (*Tetradymia* spp.) as shrub components. The grass and forb component is often sparse and is composed of perennial bunchgrasses such as Indian ricegrass (*Achnatherum hymenoides*), Thurber's needlegrass (*Achnatherum thurberianum*), squirreltail (*Elymus elymoides*), and Sandberg's bluegrass (*Poa secunda*).

Inter-mountain Basins Big Sagebrush Steppe—This is widespread throughout the Great Basin. This system is found at slightly higher elevations, and the soils are typically deep and nonsaline, sometimes with a microphytic crust. The shrub-steppe is dominated by perennial grasses and forbs, with basin big sagebrush

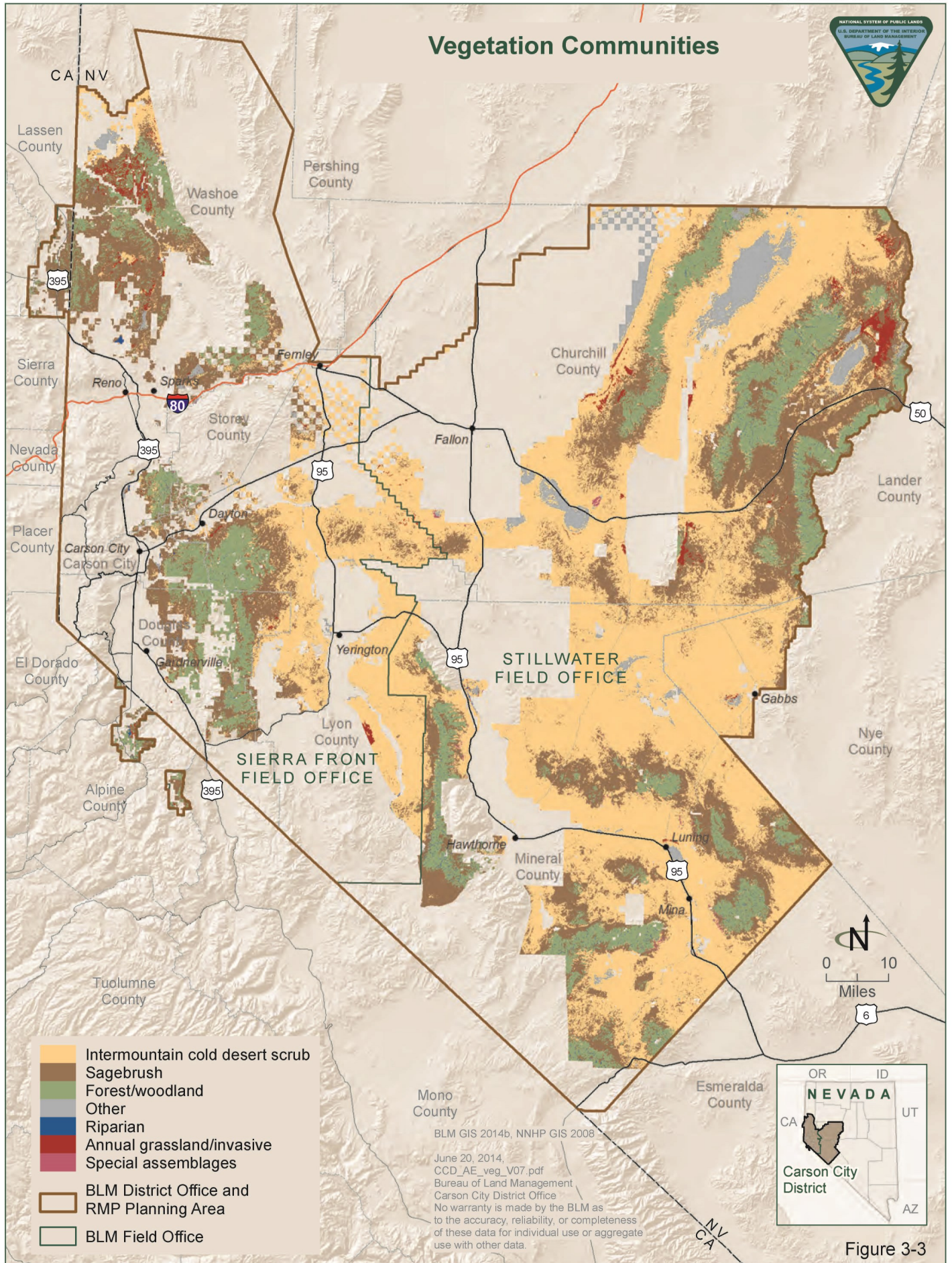


Figure 3-3

(*Artemisia tridentata* ssp. *tridentata*), Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*), and bitterbrush (*Purshia tridentata*) dominating or co-dominating the shrub component. Other shrub species often present include shadscale (*Atriplex confertifolia*), rabbitbrush (*Chrysothamnus* spp.), and horsebrush (*Tetradymia* spp.). The native perennial grasses associated with this system include: Indian ricegrass (*Achnatherum hymenoides*), Idaho fescue (*Festuca idahoensis*), Prairie junegrass (*Koeleria macrantha*), Sandberg's bluegrass (*Poa secunda*) and bluebunch wheatgrass (*Pseudoroegneria spicata*). The natural fire regime of this system likely maintained a patchy shrub component, but the shrubs increase with overgrazing or lack of fire.

Inter-Mountain Basins Big Sagebrush Shrubland—This system occurs in broad basins between mountain ranges, usually between 4,900 and 7,500 feet in elevation. The soils are typically deep and well-drained. These shrublands are co-dominated by Basin big sagebrush (*Artemisia tridentata* spp. *tridentata*) and Wyoming big sagebrush (*Artemisia tridentata* spp. *tridentata*). There is often a scattered juniper component (*Juniperus* spp.), as well as greasewood (*Sarcobatus vermiculatus*), Atriplex species (*Atriplex* spp.), rabbitbrush (*Chrysothamnus* spp.), and bitterbrush (*Purshia tridentata*). The grass component is usually about 25 percent or less of the vegetative cover, and species include: Indian ricegrass (*Achnatherum hymenoides*), needle and thread grass (*Hesperostipa comata*), Idaho fescue (*Festuca idahoensis*), Basin wildrye (*Leymus cinereus*), Sandberg's bluegrass (*Poa secunda*), and bluebunch wheatgrass (*Pseudoroegneria spicata*).

Intermountain Cold Desert Scrub

Several different species assemblages are included in the Intermountain Cold Desert Scrub vegetative community; however, the most common are detailed below.

Inter-Mountain Basins Semi-Desert Shrub-Steppe—This system occurs at lower elevation on alluvial fans and flats with moderate to deep soils. This system is dominated by grasses, with an open shrub layer. The most typical grasses include Indian ricegrass (*Achnatherum hymenoides*), needle and thread grass (*Hesperostipa comata*), and Sandberg's bluegrass (*Poa secunda*). Shrubs present include fourwing saltbush (*Atriplex canescens*), rabbitbrush (*Chrysothamnus* spp.), Mormon tea (*Ephedra* spp.), and winterfat (*Krascheninnikovia lanata*). Although big sagebrush may be present, it will not be a dominant component of this system. This system is open and spotty, with uneven distribution of vegetation.

Inter-Mountain Basins Mixed Salt Desert Scrub—This system is extensive and is found in saline basins, alluvial slopes, and plains. This system experiences very low amounts of annual precipitation and has very open canopies. Shrub species often present include an Atriplex component, such as shadscale (*Atriplex confertifolia*) or fourwing saltbush (*Atriplex canescens*). Other shrubs present include Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*), rabbitbrush (*Chrysothamnus* spp.), Mormon tea (*Ephedra* spp.), spiny hopsage

(*Grayia spinosa*), and winterfat (*Krascheninnikovia lanata*). The herbaceous layer varies greatly, being quite sparse in some areas and fairly dense in other areas. Grasses commonly include: Indian ricegrass (*Achnatherum hymenoides*), thickspike wheatgrass (*Elymus lanceolatus* ssp. *lanceolatus*), western wheatgrass (*Pascopyrum smithii*), and Sandberg's bluegrass (*Poa secunda*).

Inter-Mountain Basins Greasewood Flat—This system occurs on stream terraces and flats or may form rings around more sparsely vegetated playas. The soils are typically saline, with a shallow water table and intermittent flooding. Although these sites dry out during the growing season, the water table remains high enough to maintain vegetation despite the salt accumulations. The shrub canopy is often open to moderately dense, with such shrubs as: greasewood (*Sarcobatus vermiculatus*), fourwing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), and winterfat (*Krascheninnikovia lanata*). The grass component includes alkali sacaton (*Sporobolus airoides*), saltgrass (*Distichlis spicata*), and some amount of basin wildrye (*Leymus cinereus*).

Forests and Woodlands

There are eight distinct forest and woodland types within the planning area. The pinyon-juniper woodland community type is a mixture of singleleaf pinyon (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*) with some pure stands of pinyon and juniper occurring in limited amounts. Recently, pinyon-juniper woodlands are starting to be described in terms of relative stand development (Tausch et al. 2009). There are three transitional phases of woodland development:

- Phase I—Trees are present but shrubs and grasses are the dominant vegetation that influences ecological processes (hydrologic, nutrient, and energy cycles) on the site.
- Phase II—Trees are co-dominant with shrubs and herbs, and all three vegetation layers influence ecological processes on the site.
- Phase III—Trees are the dominant vegetation and the primary plant layer influencing ecological processes on the site. Shrubs no longer dominate the understory.

Qualitative assessments have determined that phase I and II pinyon-juniper woodlands are typically located on gentle terraces adjacent to sagebrush dominated shrublands. Occasionally, Phase I woodlands are located on steep, extremely rocky slopes that receive low precipitation. Phase II and III woodlands are located on gentle, moderate and steep slopes and are typically in large contiguous blocks dominated by pinyon-juniper, with the occasional high elevation meadow or shrubland interspersed.

Mountain mahogany stands are typically located on rocky, coarse textured soils and occur as either pure stands of curl-leaf mountain mahogany (*Cercocarpus ledifolius*) or transitional stands that are mixed with pine and juniper trees. Even

less is known on the current condition of mountain mahogany stands. The groves are seemingly quite old, evidenced by the fact that the trees are fairly large, and this is a slow growing species. Regeneration is limited and as such senescence is occurring in older groves, which diminishes the browse potential of these stands. Often the trees lack leaves to the level that browse species can reach.

Three needled pine type is dominated by a mixture of Jeffrey pine (*Pinus jeffreyi*) and ponderosa pine (*Pinus ponderosa*) or a combination of the two. This community type is found on xeric montane to subalpine regions of the Great Basin and Sierra Nevada. They tend to have a semi-open canopy leaving room for associates incense cedar (*Calocedrus decurrens*), western juniper (*Juniperus occidentalis* ssp. *australis*), singleleaf pinyon, and white fir (*Abies concolor* ssp. *lowiana*), as well as common sage steppe shrubs and bunchgrasses.

The riparian deciduous community type is the most dispersed forest and woodland type with stands occurring in all the major mountain ranges within the planning area. These stands are generally found where there is surface water or a shallow water table. Dominant trees include quaking aspen (*Populus tremuloides*) and black poplar (*Populus balsamifera* ssp. *trichocarpa*) at higher elevations, and Fremont cottonwood (*Populus fremontii*) and pacific willow (*Salix lasiandra*) at lower elevations. There are quaking aspen stands that occupy nonriparian sites but the majority of these stands are found in areas that have more available water than upland forests. Riparian deciduous and aspen-dominated stands are a mix of densities and age classes throughout the planning area. Many of these stands are experiencing impacts from wildlife, wild horses, and livestock browsing, insects, disease, and conifer encroachment. The older stands are also showing age-related declines, such as diminished live crown ratios, higher susceptibility to insects and disease, and individual stem death.

The soft pine type is dominated by western white pine (*Pinus monticola*) and sugar pine (*Pinus lambertiana*) and grows in association with lodgepole pine (*Pinus contorta* var. *murrayana*) and Jeffrey pine. Both sugar pine and western white pine are highly susceptible to the introduced pathogen blister rust (*Cronartium ribicola*), which often results in rapid mortality once infected.

Dominant tree species in the mixed conifer type include Jeffrey pine, white fir, incense cedar, and to a lesser extent western juniper and singleleaf pinyon. The pure fir type is comprised of nearly pure stands of white fir with dense canopies and almost no understory. The limber pine type occupies rocky mountaintop sites exposed to windy conditions and is dominated by a sparse overstory of limber pine (*Pinus flexilis*) with a sparse understory of xeric shrubs or cushion plants. Poor growing conditions preclude other trees from inhabiting this zone.

Annual Grasslands

Approximately 101,633 acres of the planning area has been converted to annual grassland comprised of invasive nonnative species. As dominant native species

lose dominance in the ecosystem, nonnative invasive species, such as cheatgrass (*Bromus tectorum*), are provided an avenue to gain dominance in the system (Prevey et al. 2010). Cheatgrass then provides a fine fuel with great horizontal continuity that creates different fire behavior than native fuels would. Cheatgrass germinates early in the season, before the majority of native perennials have come out of dormancy. Cheatgrass often becomes established in the understory of a Sagebrush or Intermountain Cold Desert Scrub system and then gains dominance once a disturbance, such as fire, temporarily eliminates the native overstory competition.

Riparian Systems

Springs and Springbrooks—Nevada has the most known springs of any state in the US, with over 4,000 mapped. The springs are quite diverse in amount of water produced, and perennial or seasonal amounts of water. More information on the types of systems present throughout the planning area is available in **Section 3.2.3, Water Resources**.

Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland—This system occurs in mountain ranges throughout the planning area mostly between 4,000 and 7,000 feet elevation. There is a wide variety of plant associations, depending on the system's elevation, stream gradient, floodplain width and overall system dynamics. The dominant trees usually include species such as white fir (*Abies concolor*), water birch (*Betula occidentalis*), Fremont cottonwood (*Populus fremontii*), and douglas-fir (*Pseudotsuga menziesii*). The shrub component is ordinarily comprised of silver sagebrush (*Artemisia cana*), dogwood (*Cornus sericea*), narrowleaf willow (*Salix exigua*), and Lemmon's willow (*Salix lemmonii*). There is potential for a prolific and diverse herbaceous component. Rushes (*Juncus* spp.) and sedges (*Carex* spp.) are often dominant in the herbaceous layer, but perennial grasses and mesic forbs are also commonly found. Common perennial grasses and mesic forbs include tufted hairgrass (*Deschampsia caespitosa*), slender wheatgrass (*Elymus trachycaulus*), rocky mountain iris (*Iris missouriensis*), false lily of the valley (*Maianthemum stellatum*), or Fendler's meadow-rue (*Thalictrum fendleri*).

Overall, riparian systems are about 4 percent of the planning area, but provide a much greater percentage of the desirable resources for livestock, wild horses, wildlife, and recreationists. These systems often experience overuse or misuse, since so many user groups concentrate on riparian systems.

Special Assemblages

Island or Geographically Isolated Perennial Plant Communities—There are several island or geographically isolated plant communities that exist within specialized habitats distinct from the larger vegetation matrix in the planning area. Many of these isolated plant species are BLM special status species and are not mentioned in this section as they are treated in the BLM special status in the

Analysis of the Management Situation. Examples of these nonsensitive types of geographically isolated plant species include: limber pine (*Pinus flexilis*), western whitebark pine (*Pinus albicaulis*), white fir (*Abies concolor*), and other species on the Nevada Natural Heritage Program watch list.

Unique Habitats—Unique habitats are distinct from the surrounding vegetation matrix and require management that is different from the broader landscape. Examples of unique habitats are playa lakes, vernal pools, sand dunes, salt marshes, hot springs, cold springs, and vegetation communities dependent upon unique soils. Each of these unique habitats were created by some natural process in the past and rely upon the continuation of these natural processes for maintenance and replenishing of chemical and physical properties that support the vegetation and wildlife found at these unique sites. Many of these sites may harbor BLM special status species and may have management that is specific to these sites. Other sites may be managed as recreation areas, such as Sand Mountain.

Other

The ‘Other’ category captures all the components of the planning area that do not fit into one of the major vegetative communities. Included in this category are agricultural lands, developed land, barren land, and disturbed mining land.

Noxious and Invasive Weeds

Invasive species include plants able to establish on a site where they were not present in the original plant composition, and are of particular concern following a disturbance. Invasive species aggressively outcompete native species within a community and often alter the physical and biotic components enough to deteriorate the entire ecological community. They are often exotic species that do not have naturally occurring, local predators. Invasive species make efficient use of natural resources difficult and may interfere with management objectives for that site. Noxious weeds are a subset of invasive species, specified by federal or state laws as being especially undesirable, troublesome, or difficult to control. The BLM maintains a National List of Invasive Weed Species of Concern which identifies noxious and invasive weeds of concern on BLM-administrated lands and has designated those weeds for control and management. A noxious weed grows and spreads in places where it interferes with the growth and production of desired species. Indicators of nonnative, invasive vegetation condition include acres affected by grazing, wildland fire, and infestation of noxious weeds and other invasive nonnative plant species. Indicators of noxious weed conditions include the extent and density of occurrence. The diversity of noxious weed species may indicate the effectiveness of current management efforts or may reflect new pressures on the land. Indicators of potential infestation areas include significant site disturbance, such as wildfire, road construction, and overgrazing, as many noxious weeds are aggressive early successional species that colonize recently disturbed sites. Human-caused disturbances are generally responsible for most weed infestations.

Within the planning area, there are numerous areas infested with noxious weeds in patches of varying sizes and weed densities. Currently, the aggregate acreage of all noxious weeds is approximately 300 acres. As not all noxious weeds have been mapped, the total acreage is undoubtedly larger. Current surveying and mapping of noxious weeds is ongoing within the planning area. Additional invasive species, not included on federal and state noxious weed lists, are also found in the planning area.

Table 3-6, Noxious Weeds Found within the Planning Area, outlines noxious weeds found in the planning area. Noxious weeds are found in places where the native plant community has been degraded and where there is sufficient soil moisture. Consequently, noxious weeds are not found in widespread contiguous areas throughout the district but instead typically found in large and small patches, primarily in riparian areas, ephemeral drainages, playa lake margins, burned areas, and along roadsides.

Table 3-6
Noxious Weeds Found within the Planning Area

Common Name	Scientific Name
Russian knapweed	<i>Acroptilon repens</i>
Hoary cress	<i>Cardaria draba</i>
Musk thistle	<i>Carduus nutans</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Yellow starthistle	<i>Centaurea solstitialis</i>
Spotted knapweed	<i>Centaurea stoebe</i> ssp. <i>mincranthos</i>
Canada thistle	<i>Cirsium arvense</i>
Poison hemlock	<i>Conium maculatum</i>
Perennial pepperweed/ Tall whitetop	<i>Lepidium latifolium</i>
Dalmatian toadflax	<i>Linaria dalmatica</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Scotch thistle	<i>Onopordum ancanthium</i>
African rue	<i>Peganum harmala</i>
Mediterranean sage	<i>Salvia aethiopis</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Tamarisk	<i>Tamarix</i> sp.
Puncturevine	<i>Tribulus terrestris</i>

The current strategy for noxious and invasive weed management is to map and treat noxious and invasive weeds using conventional methods such as GPS units to map infested areas followed by mechanical, biological and chemical treatments. Current efforts are designed to move toward an integrated weed management strategy that includes mapping, treating, evaluating and revegetation of weed-infested areas. This effort will allow staff to prioritize and focus on treating areas having high priority such as sage-grouse habitat.

Resource Changes

Trends

Major Vegetation Issues in the Planning Area

Many of the ecological systems within the planning area are out of balance and will require management changes and/or reclamation to restore resilient ecological systems. The three primary issues influencing vegetation are: 1) reduced resiliency to disturbance; 2) invasive and noxious species, and 3) reduced fire return intervals (too many fires in too short a time period). These are described below.

- 1) Reduced resilience to disturbance (i.e., skewed functional structural groups). Of the 2,113,771 acres of the planning area that had Rangeland Heath Standard Determinations done, 58 percent of those did not meet Standard 4. Standard 4, Animal and Plant Habitats, examines the vegetation as it relates to the ecological site potential for the site. Areas that have a dense shrub canopy and very little grass/forb component in the understory are classified as having a skewed functional structural group if the site potential is a grass-dominated system. The grass, forbs and shrubs all provide a different function to the ecological system, as well as providing different habitat values for associated wildlife. Having a skewed structural functional group makes it very hard for a vegetative community to have the resiliency to heal itself after a disturbance, such as fire.

Skewed structural functional groups can be caused by a variety of factors, such as historic or current overgrazing, decadent plant communities, drought, past disturbance such as fire, and a variety of other causes.

- 2) Noxious and Invasive Species. Cheatgrass is the most ubiquitous invasive annual grass in the planning area. According to SyntheMap data, and largely verified by BLM personnel, over 101,633 acres are present in the planning area, of which over 58,724 acres are on BLM-administered lands. Mostly, these are lands that had cheatgrass as a component of the vegetation prior to disturbance, and post-disturbance the native species had minimal numbers, or were otherwise unable to compete, making the invasive annual grass the dominant vegetation onsite. Total acres and BLM acres within the planning area that are dominated by invasive vegetation are depicted below (**Table 3-7, Total Acres and BLM Acres within the Planning Area Dominated by Invasive Vegetation**).

Table 3-7
Total Acres and BLM Acres within the Planning Area Dominated by Invasive Vegetation

Type of Introduced Vegetation	Planning Area (acres)	BLM (acres)
Annual Grass / Forbs	16711	2787
<i>Bromus tectorum</i> Semi-natural Herbaceous Vegetation	0.5	0.3
Introduced Riparian Vegetation	4150	268
Introduced Upland Vegetation-Annual and Biennial Forbland	20298	12005
Introduced Upland Vegetation-Annual Grassland	59367	43061
Introduced Upland Vegetation-Perennial Grassland and Forbland	1031	603
Nonnative/Ornamental Grass	75	0
<i>Salsola</i> spp. Herbaceous Vegetation [Provisional]	0.2	0
<i>Tamarix</i> spp. Semi-natural Temporarily Flooded Shrubland Alliance	0.7	0

Noxious and invasive species are also present throughout the planning area, and continue to arrive and spread at rates that exceed our ability to treat and eradicate these species. Degraded or disturbed ecosystems are most easily invaded by these species.

- 3) Reduced fire return intervals (more fires in a shorter time period). For example, the fire return intervals in sagebrush-dominated systems are estimated to be between 15 and 150 years naturally, depending on the species of sagebrush and the vegetative community (Suring et al. 2005). The reduced fire return interval has created alterations in ecological systems throughout the planning area. Cheatgrass was introduced to the United States in the 1800s, and by the 1990s it was already thought to have invaded over 6.8 million hectares (16.8 million acres) of the sagebrush ecosystem (Pellant and Hall 1994). It is known to replace native perennial grasses, forbs and shrubs (Suring et al. 2005). Over 126,121 acres of the planning area has burned in the last 10 years alone (2002-2011). Please refer to **Section 3.2.8, Wildland Fire Ecology and Management**, for maps depicting fires and fire history throughout the planning area.

Sagebrush

There are large amounts of sagebrush habitat throughout the planning area that is experiencing active pinion and juniper expansion. This has many negative associated vegetative impacts that are detailed in the Forests and Woodlands section. In addition, there is cheatgrass present in sagebrush habitats district-wide, creating a potential for habitat conversion post-disturbance. Over 67,000 acres of the planning area is presently annual grassland, having already experienced type conversion from the previous native vegetative community. Cheatgrass is a very aggressive species that is well suited to outcompete native vegetation for water and soil nutrients, since it germinates and becomes active much earlier in the season than native vegetation. Cheatgrass can get very dense

in the understory, and provide horizontal continuity of fuel that native bunchgrasses would not provide. This large amount of standing cheatgrass leads to an increased fire frequency, shortening the return interval from 15 to 150 years in a native system to as frequent as 3 to 5 years in a cheatgrass-dominated system (Young and Evans 1978). This frequent fire cycle very quickly removes all native vegetation that is not fire-tolerant from the system. Once these cheatgrass cycles have begun, they are extremely difficult to reverse.

Intermountain Cold Desert Scrub

This comprises the largest single vegetation type present in the planning area. There have been large amounts of this vegetation type that have converted to cheatgrass through an increased fire cycle. In some areas of this type of vegetative community, cheatgrass has slowly gained dominance without the disturbance driver (Svejcar and Tausch 1991). Due to the low precipitation in this vegetation type, restoration efforts post-disturbance are often not successful (Jessop and Anderson 2007), especially if cheatgrass has already gained dominance in the understory.

Forest/Woodlands

All forest and woodland types in the planning area are experiencing the same issues as other forests and woodland types in the intermountain west. Fire exclusion, coupled with impacts from livestock grazing, and timber harvest has led to high tree densities, expansion/reforestation of pinyon-juniper, contraction of aspen and riparian deciduous stands, and drought/insect/disease-related mortality.

The rapid pinyon-juniper woodland expansion observed during the late 1800s and early 1900s resulted from a combination of conditions: heavy livestock grazing that removed the herbaceous vegetation, fire suppression (Heyerdahl et al. 2001; Savage and Swetnam 1990; Swetnam and Betancourt 1998), timber harvest for mining operations, and wet conditions that created an ideal situation for tree establishment (Antevs 1938). Expansion into sagebrush vegetation types (Phase I woodland) is continuing to occur, which diminishes the extent of this vegetation type on the landscape.

Fire exclusion in pinyon-juniper woodlands has led to higher tree densities, accumulation of live and dead fuel loads, and subsequently higher intensity fire that kills the entire stand. In Phase III woodlands, stand-replacing fire leads to invasion of nonnative vegetation (e.g., cheatgrass and other noxious weeds) because high tree densities have shaded out the native grass, forb, and shrub understory, resulting in diminished seed banks for natural recovery after fire.

Aspen stands are becoming smaller in extent, and less age diversity is present. Many stands experience difficulties reproducing successfully, as the suckers are not able to grow past browse height prior to being decimated by browsers. As water tables have lowered, some aspen stands have decreased or died out as the trees become incapable of reaching the water. Conifer from adjacent areas

are establishing within these stands with some cases of shading out the shade-intolerant aspens. This encroachment also increases live and dead fuel loading within the aspen stands, making them more susceptible to stand-replacing fire.

The last major drought that caused widespread mortality to forest and woodlands in the planning area was from 2001 to 2004 (Shaw et al. 2005). This drought was similar in magnitude to severe droughts in the early 1900s and the 1950s (Cole et al. 2004; McPhee et al. 2004). During the most recent drought, the majority of trees killed were pinyon pine; the interspersed juniper showed little mortality. Drought-stressed trees were attacked by the following insects and diseases: pinyon ips (*Ips confusus* [LeConte]), twig beetles (*Pityophthorus* spp. and *Pityogenes* spp.), pitch moths (families *Pyrilidae* [especially *Dioryctria* spp.] and *Sesiidae*), black stain root disease (*Leptographium wageneri* [Kendrick] Wingfield), and pinyon dwarf mistletoe (*Arceuthobium divaricatum* Engelm). These are native pathogens and insects that control stand density during times of water stress (droughts). Old-growth stands of pinyon-juniper are assumed to have been affected by this drought as well, diminishing the amount of old trees on the landscape.

Riparian Systems

Proper functioning condition assessments show that the majority of riparian areas are not in proper functioning condition. **Table 3-8**, Carson City District Riparian Functional Assessment Ratings (Lentic and Lotic), depicts the amount of riparian areas in the planning area that have been rated and the designated ratings. Many of the assessments indicate downward trends due to ongoing disturbances, mainly anthropogenic. Almost 70 percent of the land assessed was rated as not meeting Standard 2 (Riparian/Wetland systems are in proper functioning condition), and 25 percent of the land assessed did not meet Standard 3 (Water quality criteria in Nevada or California State Law shall be achieved or maintained).

Table 3-8
Carson City District Riparian Functional Assessment Ratings (Lentic and Lotic)

Signed S&G Determinations from 2003-2011	Number of Water Sources Analyzed	Proper Functioning Condition	Functional at Risk	Nonfunctional
38	184	29%	54%	15%

Concentrated livestock, wildlife, and wild horse and burros use can heavily impact riparian areas, resulting in compacted soils, loss of plant species diversity, introduction and spread of invasive species. OHVs can also impact riparian areas by crushing the vegetation, compacting the soils, and introducing and spreading invasive species. Riparian areas are especially susceptible to invasive species invasion due to the favorable soil and moisture that is available. Over time, the loss of vegetation can lead to invasive species establishment, which then forms a

local source that can further spread to other areas. Disturbances can also lead to the development of headcuts, which lead to channel entrenching, increased erosion and sedimentation along with a lowering of the water table, increasing the potential for invasions of more xeric species. Riparian areas are negatively impacted by lowering of the water table or groundwater flow alterations or disruptions, due to the exporting of groundwater outside of the hydrologic basin.

Limited resources do not allow proper management or protection of riparian areas. Protection structures such as fencing are either not erected or once constructed are often not maintained or are vandalized to the point where protection is no longer provided.

Due to the novelty of the resource in the desert, the springs and springbrooks receive a large amount of use by humans, wildlife, livestock, and wild horses. In addition to ongoing degradation, water tables throughout the planning area are lowering due to droughts and other factors.

Special Assemblages

Currently it is not possible to determine trends as very limited information exists on these island communities. Limited data of the vegetation condition at many of these sites make trend determination difficult. Overall, the trend seems to be static to downward as these habitats are often fragmented by unauthorized trails, invaded by native and nonnative species, and exhibit loss of biodiversity.

Other

This category will continue to grow if areas are developed, disturbed, or otherwise removed from their previous vegetative community.

Noxious Weeds

Under the current noxious weed management, noxious weeds continue to gain dominance in areas where weeds are established. These areas then become launching points from which new areas with suitable habitat and disturbance are infected.

Forecast

Overall, the intact habitats need to be retained as such, and habitats that are not yet past a transitional threshold need to be prioritized for management while they still contain the components required for site rehabilitation. If vegetative communities continue becoming further degraded, and more native vegetative communities pass the threshold to introduced species dominance, restoration will become increasingly difficult. As native stable and resilient vegetative communities are lost and converted, all aspects of the environment will suffer.

Sagebrush

Pinyon and juniper are expected to continue expanding into sagebrush communities. The BLM can combat some of the deleterious ecological impacts of this expansion by proactively thinning juniper and pinyon before it creates a dense canopy that eliminates the sagebrush and native forbs and grasses from the area. Please refer to **Section 3.2.4, Vegetation** for a discussion of the phases of pinyon-juniper expansion. Intact sagebrush communities are expected to continue decreasing in size and occurrence. In addition, the intact communities are expected to have less proximity to each other, creating habitat fragmentation for sagebrush dependent species. It is also expected that the remaining sagebrush systems will burn at some point in the future. With the lack of resiliency that is present in the planning area, these sagebrush systems are not expected to have the native vegetation present required to naturally stabilize and restore the system. Many of these systems are expected to convert to annual grasslands.

Intermountain Cold Desert Scrub

It is expected there will continue to be type conversions throughout this vegetation type. Wildfire remains a significant threat as invasive annual species have the potential to increase wildfire frequency and extent. This vegetative community receives the least attention for restoration, since such low success rates are associated with this vegetative community. However, continued research may allow for currently unknown treatments to yield restoration success in the scrublands, at which time these areas may receive more effort and funding for restoration.

Forests/Woodlands

In absence of active management of the forest and woodlands in the planning area, the aforementioned trends of higher tree densities, expansion/reforestation of pinyon-juniper, contraction of aspen and riparian deciduous stands, and drought/insect/disease-related mortality are expected to continue. These will be accelerated during drought periods and will also be subject to increasing fire intensities during fire seasons that are particularly active. At this time, the effects of climate change on forest and woodlands within the planning area are largely unknown, but management recommendations should focus on building resilience to disturbance and retaining stand and landscape diversity into the future.

Riparian Systems

Stream and river systems will continue providing a movement corridor for nonnative seed sources.

Although springs and springbrooks will continue to be a resource under high demand in the desert, the importance of these systems has also become better understood by land managers and land users, facilitating the use of alternatives such as troughs with overflows back into the original system or fenced systems.

The cumulative effects of over grazing and trampling, recreational use, and other surface-disturbing activities degrade optimal soil properties and reduce species diversity and structure. The forecast for riparian areas is one of continued downward trends, inadequate protection, and an increase in invasive species number, density, and extent. In areas with headcuts, entrenchment and lowering of groundwater levels will continue unabated with xeric native species and nonnative species dominating the sites.

Special Assemblages

There is no management plan in place for these unique species, so they do not receive any more concentrated management than the lands surrounding them. It is possible that if species within these communities do experience significant declines the unique/rare vegetation present on these sites could potentially be added to the BLM special status lists or they could be federally listed by the US Fish and Wildlife Service (USFWS).

Impacts from climate change could alter the plant community dynamics and could result in species replacements with native or nonnative species. The greatest long-term threat to the survival of these unique habitats would be the alteration or destruction of the natural process that created these unique habitats in the first place. Without these intact natural processes, it is highly likely that the unique habitats would cease to exist and could lead to a listing of species as BLM sensitive or federal listings by the USFWS.

Other

There is potential, through reclamation, to return some of these lands to their previous vegetative community.

Noxious Weeds

Without an integrated weed management approach, damaged or degraded areas are not revegetated allowing noxious weeds to persist and increase on the landscape and overtime will allow the succession of other nonnative invasive species to migrate to the area, establish and gain dominance. The increasing urbanization of western Nevada and eastern California will bring additional disturbances to native vegetation communities and will facilitate the spread of noxious weeds by means of increased human-caused fires, and damage of native plant communities and spread of weeds by motorized use.

Forecast

Land acquired along the Truckee River corridor (see **Section 3.3.6**, Lands and Realty) provides very unique opportunities for managing a river ecosystem for functionality, habitat, and the multitude of associated values such as recreation and education. These acquired lands (Mustang and 102 Ranch) are along the Truckee River Corridor approximately 7 miles to the east of Reno, and provide habitat for diverse riparian vegetation, such as cottonwoods (*Populus* spp.), willows (*Salix* sp.), silver sage (*Artemisia cana*), dogwood (*Cornus sericea*), rushes (*Juncus* sp.), and sedges (*Carex* sp.), as well as perennial grasses and a very

diverse forb component. If not actively managed, tall whitetop (*Lepidium latifolium*) will likely overtake the site in time, as it is the dominant vegetation on other lands upstream and downstream as well as being present in both parcels.

Due to the importance of riparian deciduous and aspen stands for providing water and habitat to 80 percent of vertebrates (see **Section 3.2.5**, Fish and Wildlife), these areas should be prioritized for restoration and protection. These areas also provide scenic values, landscape diversity, and contain higher within stand species diversity that isn't present in the adjacent uplands.

Pinyon-juniper expansion into sagebrush habitats is another important issue that needs to be addressed. There needs to be a strategic approach to locating existing sage-grouse occupied habitat, assessing vegetation conditions in these areas, minimizing threats to the habitat, and identifying areas of Phase I and II pinyon-juniper stands that can be removed to expand current habitat for the sage-grouse (Wisdom and Chambers 2009).

Phase III pinyon-juniper woodlands that have lost their understory grass, forb, and shrub component should be assessed carefully prior to treatment. These stands are highly susceptible to stand-replacing fire and, if left untreated post-fire rehabilitation without a native seed bank, often experience invasion by nonnative species (e.g. cheatgrass and noxious weeds). This invasion is also possible if the trees are completely removed without restoration seeding of native species. Therefore, variable density thinning coupled with restoration seeding may be the best option for protecting these stands from being lost to fire and nonnative species. A strategic approach to thinning these stands should be developed by considering location, extent, vulnerability, health condition, and age. The thinning prescriptions should also retain old-growth trees as much as operationally possible, as well as taking into account the stand dynamic needs of migratory birds. Some bird species need Phase III stands for nesting success.

The fuel hazard reduction and forest health thinning that have occurred in Jeffrey pine stands in Alpine County should be maintained over time. These treatments also need to be expanded to adjacent stands that contain high tree densities and high fuel loads so that fire in these areas doesn't spread into treated areas. An integrated landscape approach needs to be developed for forests and woodlands in Alpine County due to the importance of these areas to recreational, scenic, and landscape diversity values.

Mountain mahogany and true fir stands are fairly static systems that need to be protected from fire from adjacent areas. There is also a limited need to treat surface and ladder fuels within these stands to prevent fire from getting into the canopy. The other special stand type that needs to be maintained on the landscape is soft pine. These should be a high priority for assessment and restoration due to their limited extent within the planning area.

Areas of intact ecological systems need to be given a higher priority for protection and proactive management. Areas in close proximity to intact areas, or that would create/provide movement corridors between intact areas, should be given priority for treatments. Active management is required to ensure that the healthy areas remain healthy and do not experience degradation.

Areas that have already undergone the type conversion from native vegetation to invasive annual grassland should be treated differently. Treatments may include fuel breaks on the perimeter that would halt a fire before it entered adjacent intact habitat. If money allows, progressive treatments on these annual grasslands may help restore ecosystem functionality. These progressive treatments often include a succession of treatments including fine fuel removal, herbicide, and reseeded with native vegetation.

Systems that are not entirely intact but have not undergone a transition to another vegetative state should be viewed as opportunities to proactively manage land before wholesale restoration is required.

3.2.5 Fish and Wildlife

The planning area encompasses two Level III ecoregions: 97 percent within the Central Basin and Range and 3 percent within the Sierra Nevada (EPA 2012b). The Central Basin and Range ecoregion is internally drained and is characterized by a mosaic of dry basins, scattered low and high mountains, and salt flats that support a diverse array of species including native and nonnative fish, birds, small mammals, big game, carnivores, amphibians, and reptiles. Some species are specialists that use a narrow or restricted range of habitats, while others are generalists that can occur across a broad range of habitat types. Depending on species requirements, animals may be present seasonally or year-round; with some distributions being restricted by altitude, scarce water, and habitat islands within or between mountain ranges. The Sierra Nevada Ecoregion is a deeply dissected block fault that rises sharply from the arid basin and range ecoregions on the east and slopes gently toward the Central California Valley to the west. The eastern portion has been strongly glaciated. Much of the central and southern parts of the region are underlain by granite. The vegetation is mixed conifer and in Nevada is predominately white fir and lodgepole pine on the west side and Jeffery pine and lodgepole pine on the east side.

Among states, Nevada ranks eleventh in overall biological diversity but fifth in species extinctions (NDOW 2013). Nevada is also the driest state in the nation, with precipitation increasing with elevation. The sagebrush biome consists of approximately 120 million acres across 14 western states and 3 Canadian provinces. It is the largest semi-arid ecosystem in the West. Over 70 percent of this biome is publically managed. Over 350 different plant and animal species are dependent wholly or in part on sagebrush. It is estimated that only about 10 percent of this ecosystem is unaltered and potentially 20 percent of all species dependent on this ecological system may be at risk of extinction (Center for

Science, 2002). One of the most far-reaching problems in the sagebrush ecosystem has been the substantial and continuing decline in habitats and populations of greater sage-grouse (Connelly 1997; Schroeder 1999), discussed in more detail in **Section 3.2.6, Special Status Species**. Despite the accelerating loss and degradation of sagebrush habitats across western North America, Nevada, Utah, and California encompass one of the largest areas of sagebrush cover types that remain today. An ecoregional assessment is currently in progress for the Central Basin and Range ecoregion, which contains much of this ecosystem.

The Partners in Flight North American Landbird Conservation Plan identified Stewardship Species that represent all major biogeographic regions in North America. Bird Conservation Regions were then identified and associated with Avifaunal Biomes. Bird Conservation Regions are essentially a workable geographic scale for bird conservation that has been adopted by the USFWS and Partners in Flight and endorsed by the North American Bird Conservation Initiative. The planning area is primarily within the Great Basin Bird Conservation Region, which is part of the Intermountain West avifaunal biome that also contains Bird Conservation Regions 9, 10, and 16. The planning area along the border with California is within Bird Conservation Region 15, which is within the eastern edge of the Pacific avifaunal biome that also contains Bird Conservation Regions 5, 15, and 32. Seventy-five percent of arid land species are in decline range-wide. Conservation concern is high for about 50 percent of all grassland-breeding birds. Conservation issues stem from habitat loss in spring/summer breeding grounds as well as loss in wintering habitat that can be thousands of miles away from breeding habitat. Therefore, effective conservation of migratory birds transcends national and international jurisdictions and involves many partnerships.

The Lahontan Audubon Society initiated the Nevada Important Bird Areas Program beginning in June 2001. Ten Nevada Important Bird Areas have been identified in the planning area. However, BLM-administered lands are only a small fraction of the acreage on three of them. The BLM's management responsibility lies in protecting the habitat from indirect effects stemming from actions on BLM-administered lands.

Finally, the Nevada Department of Wildlife and California Fish and Wildlife manage big and small game hunting in their respective states. The BLM has a responsibility to manage habitat that will benefit populations of hunted species as well as local economies stemming from hunting. Hunt units cross federal and local jurisdictions. Issues with populations are not the same for all species. For instance, while desert bighorn sheep are rebounding in Nevada due to efforts by Nevada Department of Wildlife (NDOW), mule deer have realized a 50 percent decline since the 1980s.

Current Conditions

Threats to fish and wildlife in the planning area include habitat loss or fragmentation stemming from fire, energy development, mining, overgrazing of upland and riparian areas (livestock and wild horses), unrestricted off-road vehicle use, invasive species, and drought. Predation and disease are also natural threats that can be intensified for species inhabiting degraded ecosystems.

Based on the Southwest Regional Gap Analysis Project, the NDOW's Wildlife Action Plan (NDOW 2013) characterized Nevada's vegetative land cover into 8 broad ecological system groups and linked those with key habitat types, which are further refined into ecological systems characterized by plant communities or associations (USGS 2005). The primary key habitat types found in the planning area are Intermountain Cold Desert Scrub, Lower Montane Woodlands, Sagebrush, Springs and Springbrooks. Other key habitats are sparsely distributed in small acreages throughout the planning area and include; Aspen Woodland, Barren Landscapes, Cliffs and Canyon, Desert Playas and Ephemeral Pools, Grasslands and Meadows, Intermountain Rivers and Streams, Sand Dunes, and Badlands.

Vegetation communities vary based on precipitation, elevation, topography, slope, aspect, geology, soils, and other environmental variables. Habitat type is further distinguished by site-specific attributes such as vegetation cover, composition, and structure. Vegetation community composition and distribution across the planning area are described in detail in **Section 3.2.4, Vegetation**.

Wildlife is generally not found in great densities within the intermountain cold desert scrub key habitat, which encompasses about 41 percent of the planning area. Lizards are the most diverse and abundant assemblage of species and serve as prey for various raptors and medium sized mammals. This key habitat supports pronghorn, winter range for mule deer and elk, and birds such as horned larks and Swainson's hawks. Also, many species move between cold desert scrub and sagebrush habitats for various life requirements such as foraging and nesting. For instance, kit fox use the sandy soils for denning in cold desert scrub habitat but also forage for prey in sagebrush plant communities.

The sagebrush key habitat encompasses approximately 28 percent of the planning area (33 percent of BLM-administered lands) and provides important habitat for mule deer, sage-grouse, and other sagebrush dependent species such as the sage sparrow and Brewer's sparrow. Many sagebrush-dependent species are also dependent upon the Lower Montane Woodlands key habitat for some life requisites, which supports bats, big game, small game, ravens, and a variety of songbirds. It also provides thermal cover for ungulates during harsh winter storms. This key habitat makes up around 15 percent of the planning area (14 percent of BLM-administered lands).

The Cliffs and Canyons key habitat supports nesting swallows, swifts, golden eagles, and prairie falcons, along with many other bird species. These areas also

provide important cover for large mammals such as bighorn sheep, mountain lions, and bobcats, and for small mammals such as ground squirrels, rabbits, and marmots. Numerous bat species roost, hibernate, and reproduce in rock crevices, caves, and mines across the planning area.

Nevada has the most known springs of any state in the US with over 4,000 mapped within the springs and springbrooks key habitat (NDOW 2013). They vary greatly in temperature and flow and are extremely important in maintaining Nevada's wildlife diversity. Springbrooks are areas of flowing water linked to the spring source. Even small springs and/or flows can support important endemic gastropods and other aquatic invertebrates as well as a diverse plant community including various species of forbs, sedges, and rushes (NDOW 2013). While the actual amount of riparian/spring habitat is small in Nevada (less than 5 percent), about 80 percent of all vertebrate species require this habitat (NDOW 2013). Consequently, maintaining health and resiliency in this key habitat is especially critical for wildlife.

Stream aquatic habitats within the Intermountain Rivers and Streams key habitat are highly variable and are subdivided into montane and sub-montane aquatic habitats. Depending on the vegetation structure, various species of birds, fish, raptors, amphibians, and aquatic invertebrates can be supported. The actual miles of this habitat in the planning area is short. Nonetheless, healthy riparian corridors are crucial to many species in Nevada and are the hub of species diversity on the larger landscape. Several perennial creeks within the planning area are designated by NDOW as fishable streams and support nonnative rainbow trout, nonnative brook trout and nonnative brown trout.

Prominent Fish and Wildlife Species

Table 3-9, Prominent Fish and Wildlife Species Known or Potentially Found in the Planning Area, lists species of prominent status (excludes special status species) regarding BLM management efforts due to their economic value, regulatory status, high public interest, or other qualities. Special status species are discussed in **Section 3.2.6**, Special Status Species.

Table 3-9
Prominent Fish and Wildlife Species Known or Potentially Found in the Planning Area

Species or Group	Rationale for Key Designation
Birds	
Migratory birds	High interest and protected by law
Raptors	High interest, protected by law, top of food chain
Upland game birds	Economic and recreational value
Waterfowl and shorebirds (most habitat not on BLM-administered lands)	Economic and recreational value
Mammals	
Bats	High interest because of unique ecological role and susceptibility to disease
Mule deer	High economic and recreational value

Table 3-9
Prominent Fish and Wildlife Species Known or Potentially Found in the Planning Area

Species or Group	Rationale for Key Designation
Pronghorn	High economic and recreational value
Fish	
Rainbow and brook trout	High interest, economic, recreational value

Big Game

Big game species in the planning area include black bear, mule deer, pronghorn, Rocky Mountain elk (part of Desatoya Mountains only), and 2 subspecies of bighorn sheep (BLM sensitive species; **Table 3-10**, Big Game Species Distribution as Delineated by the Nevada Department of Wildlife GIS Data within the Planning Area). These animals are considered prominent species due to the public's interest for hunting and aesthetic enjoyment.

Table 3-10
Big Game Species Distribution as Delineated by the Nevada Department of Wildlife GIS Data within the Planning Area

Species	Distribution in Planning Area (Acres)	Distribution on BLM-administered lands (Acres)	Primary Key Habitat(s)
Black Bear	2,896,868 (66%)	984,800 (34% of planning area distribution on BLM administered lands)	Intermountain Rivers and Streams, Lakes and Reservoirs, Sierra Conifer Forests and Woodlands
Mule Deer	4,169,026 (48%)	1,747,100 (42% of planning area distribution on BLM-administered lands)	Sagebrush & Lower Montane Woodland
Desert Bighorn Sheep	1,176,030 (13%) (Another 1,283,134 acres of potential habitat has been delineated by NDOW on BLM administered lands)	1,025,600 (87% of planning area distribution on BLM-administered lands)	Cliffs and Canyons
Pronghorn	4,570,659 (51%)	3,316,200 (72% of planning area distribution on BLM-administered lands)	Sagebrush & Cold Desert Scrub
Rocky Mountain Elk (just winter range)	7,787 (0.08%)	7,200 (92.5% of planning area distribution on BLM-administered lands)	Grasslands

Birds

Waterfowl. Streams, rivers, reservoirs, ponds, playas, canals, and associated riparian vegetation provide habitat for waterfowl and shorebirds. Most of this habitat is not administered by the BLM, but the CCD has cumulative responsibility to protect these habitats. Canada goose (*Branta canadensis*), northern shoveler (*Anas clypeata*), ruddy duck (*Oxyura jamaicensis*), redhead (*Aythya americana*), American coot (*Fulica americana*), green-winged teal (*Anas crecca*), northern pintail (*Anas acuta*), and gadwall (*Anas strepera*) are a few of the more common game waterfowl species found in the area. Great blue herons (*Ardea herodias*), egrets, white-faced ibis (*Plegadis chihi*), and other wading and shorebirds typically occur along major rivers, valleys, and irrigated fields, as well as some playas where permanent water sources exist or in years when water is maintained. When playas contain water for extended periods of time, lush vegetation can grow in addition to producing many aquatic invertebrates that provide forage for shorebirds, waterfowl, and small water birds. For instance, Dixie Meadows hot spring and other cold springs provide the playa with a permanent water source. Therefore, numbers and abundance of species in any given year is less variable here than for playas without a permanent water source.

Upland Game Birds. The quality of upland game bird habitat depends on the availability of mixed shrubby and herbaceous vegetation for nesting, brood rearing, foraging, and thermal cover. Riparian habitat plays an important role as a source of food, water, and cover for most upland birds. Chukar partridges (*Alectoris chukar*), a nonnative species, are the most broadly distributed across the planning area while California and mountain quail (*Callipepla californica* and *Oreortyx pictus*, respectively), wild turkey, and blue grouse (*Dendragapus obscurus*) have more limited distribution. Mourning doves (*Zenaida macroura*) also occupy a variety of habitats across the planning area.

Raptors. Raptors in the planning area include eagles, falcons, hawks, and owls. Golden eagles (*Aquila chrysaetos*), red-tailed (*Buteo jamaicensis*), ferruginous (*Buteo regalis*), Swainson's (*Buteo swainsoni*), and Cooper's hawks (*Buteo swainsoni*), peregrine (*Falco peregrinus*) and prairie falcons (*Falco mexicanus*), and American kestrel (*Falco sparverius*) are the most common diurnal species observed, while the nocturnal great horned owl (*Bubo virginianus*) occupies a variety of habitats in the planning area. Cliffs, rocky outcrops, and large trees provide suitable nesting habitat for many of these species. Because they are top (or apex) predators on the food chain, raptors are an important indicator of overall ecosystem health.

Migratory Birds

The Partners in Flight North American Landbird Conservation Plan identified Stewardship Species that represent all major biogeographic regions in North America. Bird Conservation Regions were then identified and associated with

Avifaunal Biomes. Bird Conservation Regions are essentially a workable geographic scale for bird conservation that has been adopted by the USFWS and Partners in Flight and endorsed by the North American Bird Conservation Initiative. The planning area is primarily within the Great Basin Bird Conservation Region that is part of the Intermountain West avifaunal biome (contains 3 Bird Conservation Regions). The planning area along the border with California is within Bird Conservation Region 15 that is within the eastern edge of the Pacific avifaunal biome (contains 3 Bird Conservation Regions).

The Lahontan Audubon Society initiated the Nevada Important Bird Area Program beginning in June of 2001. Ten Nevada Important Bird Areas have been identified in the planning area. However, BLM-administered lands are only a small fraction of the acreage on three of the Nevada Important Bird Areas. The BLM's management responsibility lies in protecting the habitat from indirect effects stemming from actions on BLM-administered lands.

Common migratory birds include common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), Virginia warbler (*Oreothlypis virginiae*), mountain bluebird (*Sialia currucoides*), green-tailed towhee (*Pipilo chlorurus*), sage sparrow (*Artemisospiza belli*), horned lark (*Eremophila alpestris*), black-throated sparrow (*Amphispiza bilineata*), western scrub-jay (*Aphelocoma californica*), pinyon jay (*Gymnorhinus cyanocephalus*), bushtit (*Psaltirparus minimus*), and Brewer's sparrow (*Spizella breweri*). **Table 3-11**, Migratory Birds of Conservation Concern and Game Birds Below Desired Condition Known or Potentially Found in the Planning Area, lists Birds of Conservation Concern and Game Birds potentially found in the planning area. It is based on the USFWS Birds of Conservation Concern 2008 List for Bird Conservation Regions 9 and 15 (USFWS 2008). Birds listed for these Bird Conservation Regions but not known to occur in the planning area are not displayed in the table (Note: several species of concern displayed in the table are also addressed under special status species in **Section 3.2.6**, Special Status Species).

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
Bald eagle (b) <i>Haliaeetus leucocephalus</i>	X	X		Only 3 known breeding locations. Winters in low numbers. Trend	Intermountain Rivers and Streams, Lakes and Reservoirs, Sierra Conifer

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
				is stable or increasing with recent winter increases in Carson Valley.	Forests and Woodlands
Band-tailed pigeon <i>Patagioenas fasciata</i>			X	Year-round in the Carson and Pine Nut ranges with migration stopovers or wintering in the Lahontan Valley.	Sierra Conifer Forests and Woodlands
Black swift <i>Cypseloides niger</i>	X	X		Potentially breeds in Alpine County and forages in Douglas County. Trends unknown.	Cliffs and Canyons
Brewer's sparrow <i>Spizella breweri</i>	X			Breeds across the planning area. Declining across range.	Sagebrush (but other key habitats in proximity to sagebrush are also used)
Calliope hummingbird <i>Selasphorus calliope</i>	X	X		Known to breed in the Carson Range and other suitable habitat in planning area. Poor data but trend may be stable.	Sierra Conifer Forests and Woodlands, Aspen Woodlands & Intermountain Rivers and Streams
Cassin's finch <i>Haemorhous cassinii</i>		X		Widespread and abundant in suitable habitat across the planning area. Trends unknown in Nevada.	Sierra Conifer Forests and Woodlands & Lower Montane Woodland

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
Eared grebe (nb) <i>Podiceps nigricollis</i>	X			Year-round distribution with key conservation areas being the Lahontan Valley, Walker Lake, and Pyramid Lake. Stable or increasing trend.	Lakes and Reservoirs & Marshes
Ferruginous hawk <i>Buteo regalis</i>	X			Winters in the Lahontan Valley and scattered year round elsewhere. Trend is stable.	Intermountain Rivers and Streams, Sagebrush, Lower Montane Woodlands
Flammulated owl <i>Otus flammeolus</i>	X	X		Known breeding distribution in the Carson Range, unknown elsewhere. Trend is unknown.	Sierra Conifer Forests and Woodlands
Golden eagle <i>Aquila chrysaetos</i>	X			Wide year round distribution. Trend is declining regionally and in Nevada.	Cliffs and Canyons, Sagebrush, and Lower Montane Woodland
Green-tailed towhee <i>Pipilo chlorurus</i>	X			Breeding distribution in appropriate habitat. Trend is thought to be stable.	Sagebrush, Lower Montane Woodland, & Aspen Woodland.
Lewis's woodpecker <i>Melanerpes lewis</i>	X	X		Known breeding in the Carson Range and migration in the Lahontan Valley and near Pyramid Lake. Trend is	Aspen Woodland & Sierra Conifer Forests and Woodlands

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
				thought to be declining.	
Lesser scaup <i>Aythya affinis</i>			X	Known to breed at Washoe Lake, along Truckee River, and rarely in Lahontan Valley. Information is poor but the planning area is likely used during migration as well.	Lakes and Reservoirs & Marshes
Loggerhead shrike <i>Lanius ludovicianus</i>	X			Year round distribution. Trend is declining.	Cold Desert Scrub & Sagebrush
Long-billed curlew <i>Numenius americanus</i>	X			Known breeding distribution in the Lahontan Valley, Walker River Basin, Washoe Lake, and Carson Valley and presumed to migrate through the planning area. Trend is stable or increasing.	Agricultural Lands & Wet Meadows
Marbled godwit (nb) <i>Limosa fedoa</i>	X			A stopover migrant in the Lahontan Valley and Walker River basin. Probable declines in Nevada.	Marshes

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
Mourning dove <i>Zenaida macroura</i>			X	Year-round distribution with trend in Nevada has been increasing but decreasing in the west.	Multiple open and semi-open habitats.
Northern pintail <i>Anas acuta</i>			X	Year-round in appropriate habitat and trend is declining range-wide.	Lakes and Reservoirs & Marshes
Olive-sided flycatcher <i>Contopus cooperi</i>		X		Confirmed breeder in the Carson Range with the Pine Nut Range considered a key conservation area. The Pine Nut Mountains, the western side of Pyramid Lake, and Lahontan Valley are important for migration.	Sierra Conifer Forests and Woodlands
Peregrine falcon (b) <i>Falco peregrinus</i>	X	X		Migration and or wintering in the Lahontan Valley, Lake Tahoe Basin, & Walker River floodplain. Trend is increasing outside of the Great Basin; therefore recolonization of	Cliffs and Canyons & Marshes

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
				breeding territories in the planning area may occur in the near future.	
Pinyon jay <i>Gymnorhinus cyanocephalus</i>	X			Year round distribution with trend in decline. Age profile and structural features of pinyon-juniper woodlands is thought to be a primary reason for declining trend.	Lower Montane Woodlands
Redhead <i>Aythya americana</i>			X	Year-round in Lahontan Valley and along Carson and Walker rivers. Recent trend is stable or increasing.	Lakes and Reservoirs & Marshes
Sage sparrow <i>Amphispiza belli</i>	X			Known breeding distribution throughout the planning area. Historical declines but assumed stable.	Sagebrush & Cold Desert Scrub
Sage thrasher <i>Oreoscoptes montanus</i>	X			Distribution is breeding only. Trend is thought to be stable or in slight decline	Sagebrush & intermountain cold desert scrub primarily where contiguous or interspersed with sagebrush

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
Snowy plover (c) <i>Charadrius nivosus</i>	X			Known to breed at the Stillwater National Wildlife Refuge and Carson Lake in the Lahontan Valley, Walker Lake, and Pyramid Lake. Trend is declining regionally but not well quantified in the Great Basin.	Desert Playa and Ephemeral Pools
Spotted owl <i>Strix occidentalis</i> (c)		X		Year-round distribution in the Carson Range but not on BLM-administered lands. Trend is in decline range wide.	Sierra Conifer Forests and Woodlands
Tricolored blackbird <i>Agelaius tricolor</i>	X			Only one population regularly breeds in the planning area in a private marsh in Douglas County with periodic reports in the Carson Valley, which is also an assumed migration route. Trend is uncertain in Nevada.	Marshes

Table 3-11
Migratory Birds of Conservation Concern and Game Birds Below Desired Condition
Known or Potentially Found in the Planning Area

Species	USFWS Birds of Conservation Concern		GBBDC	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
	Bird Conservation Region 9 (Great Basin)	Bird Conservation Region 15 (Sierra Nevada)			
Virginia's warbler <i>Oreothlypis virginiae</i>	X			Sparse breeding distribution in the planning area. Limited data suggests stable trend range-wide but uncertain in Nevada.	Lower Montane Woodland (mountain mahogany appears very important)
White-headed woodpecker <i>Picoides albolarvatus</i>	X			Year-round distribution is restricted to the Carson Range. Trend is stable.	Sierra Conifer Forests and Woodlands
Williamson's sapsucker <i>Sphyrapicus thyroideus</i>	X	X		Year-round distribution in the Carson Range and migration stopovers or wintering in the Lahontan Valley. Historic declines occurred but current trends unclear.	Sierra Conifer Forests and Woodlands & Aspen Woodlands
Wood duck <i>Aix sponsa</i>			X	Year-round distribution along the Truckee, Carson, and potentially the Walkers rivers. Overall trend is increasing.	Intermountain Rivers and Streams with adjacent large trees with cavities for nesting

(a) ESA candidate, (b) ESA delisted, (c) nonlisted subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) nonbreeding in this Bird Conservation Region.

Key Features

The BLM will continue to focus management and protection efforts on prominent wildlife and fish species, migratory birds, and their habitats (See **Tables 3-8 through 3-13**). The NDOW has identified several crucial habitats for bighorn sheep, deer, and other big game species in the planning area, including production areas, movement corridors, and summer and crucial winter range. Changes to these habitats, such as loss or degradation, fragmentation, or disturbance during crucial seasons, could have a disproportionate effect on populations by reducing carrying capacity during critical periods. Data on raptor nest locations and status in the planning area are limited, although efforts are being made to improve this knowledge base. Nests and crucial habitat for raptors will continue to be priority areas for conservation. Furthermore, migratory birds and, in particular, species of conservation concern will continue to be monitored across the planning area, and protection measures will be implemented as necessary for compliance with the MBTA and BLM policies. Key habitats identified for restoration and protection will include sagebrush, lower montane woodland, cold desert scrub, springs and spring brooks, aspen woodlands, and cliff and cave features as well as other unique habitats.

Swan Lake Nature Study Area

Dedicated in April 1999, Swan Lake Nature Study Area protects an important wildlife habitat in a wetland amidst development in the northern section of Reno. Depending on annual precipitation, the wetland varies from 100 acres to 1,000 acres. Surrounded by sagebrush, greasewood, and other desert vegetation, this large, shallow lake has a marshy habitat on the west side and adjacent sewage treatment ponds on the east. Over 150 species of wildlife have been recorded here. Burrowing owls often nest in man-made boxes located at the west and north edges of the nature study area. Swan Lake Nature Study Area is an Nevada Important Bird Area.

Resource Changes*Trends*

Quantitative data to inform trends within the planning area is not consistent among taxa and is mostly lacking. Game species tend to have the most localized data. Migratory bird trends tend to be assessed at larger geographic scales such as Bird Conservation Regions. For instance, recent studies and monitoring suggest that some migratory species populations dependent on large intact expanses of sagebrush are declining, due in part to land use and management practices and habitat loss and degradation. Bighorn sheep are increasing from historic lows due to reintroductions and augmentations of existing herds. Mule deer are in decline and pronghorn are stable. **Table 3-11** shows known trends for some migratory birds.

Wildlife diversity and abundance typically reflects the diversity, quality, and quantity of habitat. In general, key habitats have degraded over time, in

particular sagebrush, aspen woodlands, and springs and springbrooks. Possible causes include conversion of native vegetation to agricultural uses, overgrazing, noxious weed infestations, pinyon-juniper encroachment into sagebrush and riparian areas, and increased recreational use of BLM-administered lands. The effects of habitat decline vary for each species. Degraded habitat is less resistant and resilient to climate fluctuations, fire recovery, and subsequent vulnerability to invasive, nonnative and noxious species.

Forecast

With improved management and time, areas currently not meeting standards are expected to improve. However, some degraded areas, such as those dominated by cheatgrass or other weeds, may continue in their present condition, or become worse. These vegetation changes will in turn affect the composition and size of wildlife communities. The effects of habitat degradation or elimination vary for each species. The population and habitat of more common wildlife and fish species are expected to remain relatively stable, while some generalist species may increase. Migratory birds have a multitude of factors beyond the scope of the planning area that can affect population abundance over time. Small or rare species and habitats are at higher risk for declines. As demand for resource values increases, these trends are likely to continue into the future.

3.2.6 Special Status Species

Special status species are those plant and animals species with populations that have suffered significant declines. These declines may result from habitat loss, habitat modification, and from changes in competition, predation, or disease. Habitat loss and modification from human activities are the primary causes of declining populations, particularly of species that are highly adapted to specific ecological niches. Such species may or may not be legally protected by federal or state agencies. BLM land management practices are intended to sustain and promote species that are legally protected and prevent species that are not yet legally protected from needing such protection.

Current Conditions

Threats to BLM special status species in the planning area include habitat loss or fragmentation stemming from fire, energy development, mining, overgrazing of upland and riparian areas by livestock and wild horses, unrestricted off-road vehicle use, invasive species, and drought. Predation and disease are also natural threats that can be intensified for species inhabiting degraded ecosystems. Based on the Southwest Regional Gap Analysis Project (USGS 2005), the Nevada Department of Wildlife's Wildlife Action Plan (NDOW 2013) characterized Nevada's vegetative land cover into 8 broad ecological system groups and linked those with key habitat types, which are further refined into ecological systems that are characterized by plant communities or associations (USGS 2005). Key habitat types in the planning area that support special status species are

summarized under Current Conditions in **Section 3.2.5**, Fish and Wildlife, and detailed under Current Conditions in **Section 3.2.4**, Vegetation.

Federally Listed Species

Six federally listed species currently inhabit the planning area, but there are no designated critical habitats (See **Table 3-12**, Federally Listed Animal and Plant Species in the Planning Area).

The Carson wandering skipper (*Pseudocopaodes eunus obscurus*) is a small butterfly in the subfamily *Hesperiinae* (grass skippers). The subspecies was federally listed as endangered on November 29, 2001. At the time of listing, only two extant populations were known, one in Washoe County, Nevada, and one in Lassen County, California (adjacent to planning area). A third known population of the subspecies, from Carson City, Nevada, is considered extirpated as of 1998. In 2004, one additional population was located south of Carson City in Douglas County, Nevada, along the Carson River. In 2005, a second population in Washoe County, Nevada, was confirmed. Currently, there are four extant populations of the Carson wandering skipper (USFWS 2007). The Winnemucca Ranch Road site was designated as an ACEC in 2001 and was subsequently fenced for habitat protection.

Table 3-12
Federally Listed Animal and Plant Species in the Planning Area

Taxa	Species	Federal Designation	Designated Critical Habitat in Planning Area
Invertebrate	Carson wandering skipper <i>Pseudocopaodes eunus obscurus</i>	Endangered	No
Fish	Cui-ui <i>Chasmistes cujus</i>	Endangered	No
Fish	Hiko White River Springfish <i>Crenichthys baileyi grandis</i>	Endangered	No
Fish	Lahontan cutthroat trout <i>Oncorhynchus clarkii henshawi</i>	Threatened	No
Fish	Railroad Valley Springfish <i>Crenichthys nevadae</i>	Threatened	No. Only population in planning area is on private land.
Plant	Steamboat buckwheat <i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>	Endangered	No, but 51.4 acres of occupied habitat have been identified in the planning area.

Carson wandering skipper habitat is characterized as lowland grassland habitats on alkaline substrates. Occupied areas are located in a small region east of the Sierra Nevada in northwestern Nevada and northeastern California, and are characterized by an elevation of less than 1,524 meters (5,000 feet), the presence of saltgrass (*Distichlis spicata*) and nectar sources in open areas near springs or water, and possible association with geothermal activity (USFWS 2007 and references therein).

Threats to the subspecies include habitat destruction, degradation, and fragmentation due to urban and residential development; wetland habitat modification; agricultural practices; oil, gas, and geothermal development; and nonnative plant invasion. Other threats include collecting, excessive livestock trampling/grazing, water exportation projects, road construction, recreation, pesticide drift, and inadequate regulatory mechanisms. This subspecies is also especially vulnerable to chance environmental or demographic events as a small population. The combination of only four known populations (three in the planning area), small range, and restricted habitat makes the subspecies highly susceptible to extinction or extirpation from a significant portion of its range due to stochastic events such as fire, drought, disease, or other random occurrences (USFWS 2007 and references therein).

Cui-ui (*Chasmistes cujus*) is found in the planning area but the BLM does not have direct management responsibilities. Cui-ui is endemic to Pyramid Lake and spawning occurs in the Truckee River over gravel beds in relatively shallow water (21 to 140 centimeters) where flow is rapid. When low water levels disturb runs, spawning may occur at the river mouth. Spawning is unlikely to occur in Pyramid Lake because of extreme alkalinity and elevated salinity that preclude successful reproduction. Diet includes mainly bottom-oriented zooplankton and macroinvertebrates such as ostracods, Cyclops, and chironomid larvae and pupae. Feeding occurs somewhat above the bottom in water 10 to 30 meters deep (Scoppettone 1991; Sigler 1987).

Hiko White River Springfish (*Crenichthys baileyi grandis*) was introduced into Blue Link spring reservoir by the Nevada Department of Wildlife in 1984 to serve as a refuge population (USFWS 1998). However, this is not their type locality or native range. The fish live in a very small warm water reservoir. Many years ago, a mining operation punched into a warm water layer, tapping an underground water source that rose to the surface as a spring. Instead of capping the water, the small reservoir was built and the fish stocked. Filamentous algae are the most important food, and habitat changes associated with cattle and wild horse presence may negatively impact populations by creating turbid water from increased sediment deposits.

Lahontan cutthroat trout (*Oncorhynchus clarki henshawi*) are a subspecies of cutthroat trout (*Oncorhynchus clarkii*) and historically occupied large freshwater and alkaline lakes, small mountain streams and lakes, small tributary streams, and major rivers of the Lahontan Basin of northern Nevada, eastern California, and southern Oregon, including the Truckee, Carson, Walker, Susan, Humboldt, Quinn, Summit Lake/Black Rock Desert, and Coyote Lake watersheds. In the planning area, the Truckee, Carson, and Walker River watersheds, as well as several streams in the Desatoya Mountains in Churchill County support Lahontan cutthroat trout. They require relatively clear, cold waters to maintain viable populations. Lahontan cutthroat trout reproduce in the spring and are obligatory stream spawners, sometimes migrating large distances to find

adequate spawning areas. Unlike most freshwater fish species, Lahontan cutthroat trout tolerate relatively high alkalinity and total dissolved solid levels found in some lake environments. Lahontan cutthroat trout evolved in the absence of other trout and they are highly susceptible to hybridization and competition from introduced trout species (USFWS 1995).

Railroad Valley Springfish (*Crenichthys nevadae*) was introduced outside of their historical range in private ponds at Sodaville and are thought to no longer exist. Habitat requirements are similar to the Hiko White River springfish.

Steamboat buckwheat, (*Eriogonum ovalifolium* var. *williamsiae*; Polygonaceae), was listed as endangered in 1986 and is on the Nevada Natural Heritage Program List of Critically Endangered Plants. Natural occurrence of this plant is limited to the area of Steamboat Hot Springs in Washoe County. It grows in young, shallow, poorly developed, light-colored soils. This plant is often found in association with shadscale saltbush, greasewood, and rubber rabbitbrush. It is dependent on wetland margin areas. The Steamboat buckwheat is located within an ACEC (see **Section 3.4.1**, Areas of Critical Environmental Concern). The main threat is geothermal drilling, but other threats include highway construction and maintenance, private development, competition with tall whitetop and other invasive weeds, and alteration of spring flows via regional groundwater pumping and other water diversions.

BLM Sensitive Species (Plants and Animals)

In 2011, the Nevada list of BLM Sensitive Species was revised. **Table 3-13**, Current BLM Designated Sensitive Plant Species Known or Potentially Found in the Planning Area, lists all of the BLM sensitive plant species within the planning area. There is one federal candidate animal species, greater sage-grouse (*Centrocercus urophasianus*), and two candidate plant species within the planning area, Churchill Narrows buckwheat (*Eriogonum diatomaceum*) and Webber's ivesia (*Ivesia webberi*). Both candidate plant species are currently under review by the USFWS for possible federal listing. Candidate species are managed as BLM sensitive species.

Table 3-13
Current BLM Designated Sensitive Plant Species Known or Potentially Found in the Planning Area

Common Name	Scientific Name	Known Acres of Habitat ¹
Altered andesite buckwheat	<i>Eriogonum robustum</i>	813
Altered andesite popcornflower	<i>Plagiobothrys glomeratus</i>	unknown
Ames milkvetch	<i>Astragalus pulsiferae</i> var. <i>pulsiferae</i>	unknown
Beatley buckwheat	<i>Eriogonum rosense</i> var. <i>beatleyae</i>	2.8+
Bodie Hills rockcress	<i>Boechera bodiensis</i>	54.1
Bodie Hills draba	<i>Cusickiella quadricostata</i>	unknown
Churchill Narrows buckwheat	<i>Eriogonum diatomaceum</i>	17.9 (based on 2011 survey)
Eastwood milkweed	<i>Asclepias eastwoodiana</i>	unknown

Table 3-13
Current BLM Designated Sensitive Plant Species Known or Potentially Found in the Planning Area

Common Name	Scientific Name	Known Acres of Habitat ¹
Lahontan beardtongue	<i>Penstemon palmeri</i> var. <i>macranthus</i>	unknown
Lavin milkvetch	<i>Astragalus oophorus</i> var. <i>lavinii</i>	93.7
Margaret rushy milkvetch	<i>Astragalus convallarius</i> var. <i>margaretiae</i>	unknown
Masonic Mountain jewelflower	<i>Streptanthus oliganthus</i>	41.8
Mono County Phacelia	<i>Phacelia monoensis</i>	52.1
Nevada dune beardtongue	<i>Penstemon arenarius</i>	554+
Oryctes	<i>Oryctes nevadensis</i>	146+
Pine Nut Mountains mousetails	<i>Ivesia ptyocharis</i>	104
Playa phacelia	<i>Phacelia inundata</i>	unknown
Sagebrush pygmyleaf	<i>Loeflingia squarrosa</i> ssp. <i>Artemisiarum</i>	5+
Sand cholla	<i>Grusonia pulchella</i>	7.2+
Shevock bristlemoss	<i>Orthotrichum shevockii</i>	unknown
Sierra Valley mousetails	<i>Ivesia aperta</i> var. <i>aperta</i>	11.1
Sodaville milkvetch	<i>Astragalus lentiginosus</i> var. <i>sesquimetralis</i>	10.1
Steamboat buckwheat	<i>Eriogonum ovalifolium</i> var. <i>williamsiae</i>	51.4
Tiehm blazingstar	<i>Mentzelia tiehmii</i>	unknown
Tiehm peppergrass	<i>Stroganowia tiehmii</i>	635
Tonopah milkvetch	<i>Astragalus pseudodanthus</i>	unknown
Washoe pine	<i>Pinus ponderosa</i> ssp. <i>washoensis</i>	30.1+
Wassuk beardtongue	<i>Penstemon rubicundus</i>	unknown
Webber ivesia	<i>Ivesia webberi</i>	32.1
Williams Combleaf	<i>Polycytenium williamsiae</i>	457+
Windloving buckwheat	<i>Eriogonum anemophilum</i>	108+

¹ Acres calculated with on the ground surveys incorporated into GIS calculated acreages.

Many sensitive species, in particular plants, occupy unique and generally small habitat niches surrounded by a larger vegetation assemblage. All BLM sensitive plant species have a draft conservation plan completed, which are awaiting management review and approval. Threats are similar in most cases.

Disturbances to natural processes that support quality or niche habitats are the greatest long-term threat. Grazing by livestock, wildlife, and wild horses are a concern, as is off-highway vehicle impacts on sensitive plant species and on the habitat. Noxious and invasive plants species are known threats to all BLM-administered sensitive species habitats.

Plants

The range of altered andesite buckwheat (*Eriogonum robustum*; Polygonaceae) consists of the mountains and foothills surrounding Reno-Sparks and Virginia City in southern Washoe and western Storey Counties. Nearly all known populations occur on dry, shallow, highly acidic gravelly clay soils. These areas support sparse vegetation, mostly consisting of stunted woodlands of ponderosa

pine (*Pinus ponderosa*) and/or Jeffrey pine (*Pinus jeffreyi*). While native fauna seem to have nominal impacts, this plant is negatively affected by substrate disturbance from cattle and wild horses. Additionally, open soils or ridgelines and the close proximity to human populations make their habitat attractive for road development. Currently, roads and OHV use impact about half of the known sites.

Altered andesite popcornflower (*Plagiobothrys glomeratus*; Boraginaceae) is an annual herb found in Washoe County, Storey County, and Carson City. Altered andesite popcornflower grows in dry, shallow, mostly acidic, gravelly, clay soils of smallcone series, derived from weathering of hydrothermal sulfide deposits formed in andesite, or sometimes in rhyolitic or granitoid rocks; mostly in barren yellowish to orange brown patches on ridges, knolls, and steep slopes. Threats to the popcornflower are urbanization impacts in the Reno area.

Ames milkvetch (*Astragalus pulsiferae* var. *pulsiferae*; Fabaceae) is a perennial herb found in Washoe County, Nevada closer to the California-Nevada state border at an elevation between 4,625 and 5,200 feet. Ames milkvetch grows in granitic and sandy soil on small hillsides in sagebrush scrub plant communities. Threats include OHV activity and trampling by hikers and animals.

Beatley buckwheat (*Eriogonum beatleyae*; Polygonaceae) is a low, matted perennial that is endemic to Nevada in Churchill, Esmeralda, Eureka, Mineral, and Nye Counties. Beatley buckwheat may be found in low elevations around 5,600 feet in Great Basin scrub habitats, and also at higher elevations around 8,745 feet only in the Humboldt-Toiyabe Mountains. The soil that Beatley buckwheat can be found in is volcanic ash deposited with high concentrations of tuff. There are no recorded threats, but possible threats may still include trampling and grazing by animals plus possible mining exploration and development.

Bodie Hills rockcress (*Boechera bodiensis*; Brassicaceae) is a perennial herb that is restricted to the Bodie Hills area of Mono County, California and the Wassuk Range in Mineral County, Nevada. Bodie Hills rockcress is typically found in dry, open, rocky soil, as well as exposed surfaces or crevices of granite or rhyolitic (volcanic) mountain summits at an elevation range of 6,720-9,970 feet. According to the State of Nevada, it is threatened by mining operations and/or road construction and maintenance.

Bodie Hills draba (*Cusickiella quadricostata*; Brassicaceae) has been documented in Douglas, Lyon, and Mineral Counties, Nevada within the Humboldt-Toiyabe National Forest plus Mono County, California in the Bodie Hills area at elevations of 6,200 to 8,500 feet. The typical habitat is shrub steppe (low sagebrush habitats) or occasionally pinyon and juniper forests, but excessive tree cover can inhibit its growth. Bodie Hills draba grows in soils that are typically rocky (tertiary volcanic) or have moderate clay content.

Churchill Narrows buckwheat (*Eriogonum diatomaceum*; Polyganaceae) has only been documented in the Churchill Narrows portion of the Pine Nut Mountain Range within Lyon County, Nevada, specifically Clifton Flat, Fort Churchill and Adriance Valley. A possible population may be present at the Truckee River Canyon near the Celetom Mine in the Clark District, Storey County, Nevada, but this has yet to be verified. Churchill Narrows buckwheat grows in diatomaceous soil (soft and off-white soil created from fossilized remains of diatoms), at an elevation of 4,300 to 4,600 feet, with neighboring plant species including shadscale saltbush (*Atriplex confertifolia*), ephedra (*Ephedra nevadensis*), spineless horsebrush (*Tetradymia glabrata*), burrobrush (*Hymenoclea salsola*), desert prince's plume (*Stanleya pinnata*), whitestem blazingstar (*Mentzelia albicaulis*), volcanic buckwheat (*Eriogonum lemmonii*), flatbrown buckwheat (*Eriogonum deflexum*), and squirreltail (*Elymus elymoides*). The Churchill Narrows buckwheat population is isolated but considered at risk due to mining and some presence of grazing livestock. It is listed as Critically Endangered by Nevada's Division of Forestry, and is protected by Nevada Revised Statutes 527.050, 527.260-527.300, and 472.043 as of 2005.

Eastwood milkweed (*Asclepias eastwoodiana*; Asclepiadaceae) is a long-lived perennial that is endemic to Nevada in Esmeralda, Lander, and Nye Counties. Eastwood milkweed grows at an elevation of 4,680 to 7,080 feet in barren, moisture-accumulating microsites with little competition from surrounding plants in many types of basic soils (pH greater than 8) like calcareous clay hills, carbonate or basaltic gravels, sand, or shale outcrops. It is currently threatened by mining, road construction, trampling by cattle, and predation by animals and insects.

Lahontan beardtongue (*Penstemon palmeri* var. *macranthus*; Scrophulariaceae) is a Nevada endemic found in four occurrences in Churchill, Lander, Nye, Humboldt, and Pershing Counties. The Lahontan beardtongue grows in washes, roadsides, and canyon floors, particularly on carbonate containing substrates. It is generally found where subsurface moisture is available throughout most of summer and it may be restricted to calcareous substrates. The primary threat is a loss of this endemic variety through hybridization with the widely planted *P. palmeri* var. *palmeri*, a species found in seed mixes used in revegetation and erosion control. Other threats may include grazing since it is desirable forage for wildlife, but little cattle grazing occurs within this species' range.

Lavin's milkvetch (*Astragalus oophorus* var. *lavinii*; Fabaceae) is a perennial herb that has been found in Douglas, Lyon, and Mineral Counties, Nevada at elevations of 5,700 to 7,467 feet. Lavin's milkvetch grows in soil typically on northeast to southeast facing slopes, badlands, small hills, or slopes that are dry, open, and barren containing gravel with clay originating from volcanic ash or carbonate. Its populations are currently threatened by mining exploration and development, rangeland management/treatments of pinyon-juniper and sagebrush ecosystems, plus road maintenance and construction.

Margaret rushy milkvetch (*Astragalus convallarius* var. *margaretiae*; Fabaceae) is endemic to the Pine Nut and Virginia Mountain Ranges in Carson City, Douglas, Lyon, and Storey Counties, Nevada. It typically grows at an elevation of 4,700 to 7,800 feet in rocky soils on slopes and flats in mixed pinyon-juniper and sagebrush landscapes. Margaret rushy milkvetch has no documented threats, but the plant populations are located primarily on BLM-administered land, which may involve OHV, hiking, and animal activities that may cause a threat of trampling.

Masonic Mountain jewelflower (*Streptanthus oliganthus*; Brassicaceae) can be found in both California and Nevada in Mineral, Lyon, Esmeralda, and Mono Counties, including the Sweetwater Mountains, Masonic Hills, Aurora Canyon, White Mountains, Inyo Mountains, and Sierra Nevada East bioregion. It grows in volcanic or granitic rocky slopes or andesite soil in Pinyon-Juniper woodland, high elevation sagebrush-grass zones, and Jeffrey pine-white fir forests and in elevations of 6,500 to 8,500 feet with 1,508+ estimated individuals in nine mapped occurrences. Major threats to Masonic Mountain jewelflower include mining, grazing (although occurrences in Aurora Canyon appear to maintain stable populations despite grazing), woodcutting, and off highway vehicles.

Mono County Phacelia (*Phacelia monoensis*; Hydrophyllaceae) is a small annual plant found in Esmeralda, Lyon, and Mineral Counties in Nevada as well as locations in California. It grows in alkaline, barren or sparsely vegetated grayish, brownish, or reddish shrink-swell clays of mostly andesitic origin in pinyon-juniper and mountain sagebrush zones. Mono County Phacelia grows in low intensity artificial or natural disturbances including road berms that cross its soil type and, less frequently, naturally eroding badlands or apparently undisturbed soil. Although it grows in low intensity disturbances including road cuts, due to its rarity, it is threatened by intense disturbances to these areas that could cause permanent impacts. These threats include activity by road construction/maintenance and mineral exploration or development.

Nevada dune beardtongue (*Penstemon arenarius*; Scrophulariaceae) grows in the sandy soils of valley bottoms, sometimes on road banks and other recovering disturbances. It is often found in association with Indian ricegrass, fourwing saltbush, greasewood, and rubber rabbitbrush. This species is dependent on sand dunes or deep sand. Threats to the Nevada dune beardtongue are grazing and trampling by cattle, as well as geothermal development. While it has a wide distribution, it is not abundant at any one site.

Oryctes (*Oryctes nevadensis*; Solanaceae) is a small annual found only in deep loose sand of stabilized dunes, washes, and valley flats between 3,900 and 5,960 feet in elevation in western Nevada. This species appears only in years with optimal rainfall and temperature. The primary threats include grazing, trampling, and vehicle use in its sandy habitat.

Pine Nut Mountains mousetails (*Ivesia pitycharis*; Rosaceae) is listed as endemic on the Nevada National Heritage's Douglas County Rare Species List. A known population exists on the upper north and east slopes of Mount Siegel in the Pine Nut Mountains at elevations between 6,990 and 8,550 feet, most often on northwest to northeast facing slopes between 0 and 5 degrees. It is wetland-dependent, restricted to periodically wet areas or where the water table and/or bedrock are close to the surface in decomposed granite or sod of meadow margins. This species is associated with features such as springs, riparian corridors, and ephemeral ponds. Accompanying vegetation includes dry rush/forb meadow, adjacent surrounding sagebrush scrub, and occasionally surrounding pinyon/juniper/mountain mahogany woodlands. The most significant threats to the mousetails are lowering or redistribution of the water table, disturbance of meadow margins due to livestock, invasion of exotic weeds, and extensive ground disturbance due to mineral extraction.

Playa phacelia (*Phacelia inundata*; Hydrophyllaceae/Boraginaceae) is found in parts of California, Oregon, and Nevada. In Nevada, it is only found in Washoe and Humboldt Counties. Playa phacelia grows in alkali playas and seasonally inundated areas with clay soils. In Nevada, *P. inundata* is dependent upon wetlands for habitat. Threats are destruction from cattle grazing and trampling (particularly because of its proximity to standing water), OHV use, and any other activities that disrupts alkaline flats.

Sagebrush pygmyleaf (*Loeflingia squarrosa* ssp. *artemisiarum*; Caryophyllaceae) is a diminutive annual herb, branched at the base with green flowers. This species grows in sandy soils and gravel of exposed areas on dunes, flats, and disturbed areas, in sagebrush scrub and Mojave Desert scrub 2,300 to 7,000 feet in elevation. In Nevada, it is present in Washoe County though not well documented; this subspecies is less understood than ssp. *squarrosa* (*California loeflingia*). Major threats to this species include grazing, vehicles, and residential development.

Sand cholla (*Grusonia pulchella*; Cactaceae) is a stem-succulent, spiny shrub with magenta flowers. It grows in sand on dunes, well-drained slopes, flats, and borders of dry lakes and washes in desert or sagebrush scrub from 3,950 to 6,300 feet in elevation in western and central Nevada. Its harvest is regulated by the State of Nevada. Threats include grazing, off-road vehicles and recreation, and further drying of the habitat.

Shevock bristlemoss (*Orthotrichum shevockii*; Orthotrichaceae) is a rare moss with small, dark green to blackish tufts to 1.5 cm high. Shevock bristlemoss grows in the driest habitats of North America on dry granitic boulders or ceilings of recesses in boulder piles in very dry areas. This species is found between 2,460 and 6,890 feet in pinyon-juniper woodland mostly in California and in Nevada near Lake Tahoe and in Voltaire Canyon near Carson City. Fire is a threat to this species, especially if fuel reduction efforts result in piling or

burning brush next to granite boulders, and as with many bryophytes, this species is sensitive to air and water pollutants.

Sierra Valley mousetails (*Ivesia aperta* var. *aperta*; Rosaceae) is found in the Sierra Valley in California and the Carson and Virginia ranges in Nevada on flats and benches between 4,870 and 7,300 feet in elevation. It is restricted to shallow, rocky to sandy soils derived from volcanic rock or alluvium. These soils have shallow clayey sub-soils that result in slow drainage and/or vernal saturation; thus, the depth of the local perched water table and spring dry-down rate may be crucial to the distribution of this species. This species is dependent upon Nevada wetland margins in the yellowpine, mountain sagebrush, and mountain mahogany zones. Changes to natural hydrology and drainage of wetlands are threats to this species. Most of the populations occur near dirt roads; as a result, further road development, off-road vehicle use, and fire suppression activities on flats represent significant threats to this species. Additionally, the wet habitat preferred by the Sierra Valley mousetails indicates that the highly invasive tall white top (*Lepidium latifolium*) may pose a threat in the future.

Sodaville milkvetch (*Astragalus lentiginosus* var. *sesquimetralis*; Fabaceae) is fully protected by the State of Nevada and may be found in moist, alkaline, aquatic/wetland areas like drainages near cool springs co-existing with saltgrass (*Distichlis spicata*), greasewood (*Sarcobatus vermiculatus*), and alkali sacaton (*Sporobolus airoides*). The Sodaville milkvetch has been reported in Mineral and Nye Counties, Nevada at low elevations of 4,150 to 4,705 feet and is threatened by animal grazing and trampling, OHV use, private or commercial habitat development, dredging, competition from invasive plants, and impacts on pollinator populations.

Tiehm blazingstar (*Mentzelia tiehmii*; Loasaceae) is a subshrub with only seven known populations in Nye and Lincoln Counties. It grows in areas of sparse vegetation, co-occurring with *Frasera gypsicola* on gypsum spring mounds, the tops of hills of white soil, and rock outcrops in the white river valley. Threats to this species include road development, livestock trampling, and off-highway vehicles.

Tiehm peppergrass (*Stroganowia tiehmiil*; Brassicaceae) occurs in the foothill and low mountain regions of the Virginia and Pine Nut ranges including Table Mountain in Lyon County, Nevada. Populations occur in both high and low elevation in basaltic or sedimentary rocks and at the fringes of rocky scree or talus piles, clay soil, and the base of rock outcrops. It grows in association with shadscale, bitterbrush, sagebrush, and rarely, Utah Juniper. Threats and potential impacts include loss of habitat from activities such as widening of main roads and relay towers at Talapoosa Peak due to mining activity and potential impact of grazing by livestock and feral horses, mule deer, and rodents, although there are implications that *S. tiehmii* may be unpalatable by certain vertebrate grazers.

Tonopah milkvetch (*Astragalus pseudiodanthus*; Fabaceae) is a perennial herb from a buried root crown restricted to Churchill, Esmeralda, Lyon, Mineral, and Nye Counties, Nevada at elevations 4,535 to 6,000 feet. It is often misidentified as *Astragalus iodanthus*, but the Tonopah milkvetch has longer hairs encompassing the plant. Tonopah Milkvetch grows in sand dunes, old beaches, valley floors, or drainages with deep loose sandy soil often with *Sarcobatus vermiculatus* (greasewood). Current threats are early season grazing from surrounding animals.

Washoe pine (*Pinus ponderosa* var. *washoensis*; Pinaceae) is listed as a harvest regulated species by the State of Nevada. This long-lived seral species is important to wildlife, houses birds unique to the area, and is found in small stands on the eastern slope of Mt. Rose in Washoe County. It is found in white fir communities growing in dry montane forest areas and volcanic ridges at elevations of 5,500 to 8,500 feet (1,650 to 2,550 meters). Because of its low seed output and reproductive potential, logging is one of the major threats to *P. washoensis*. In addition to logging, the Washoe pine is negatively affected by buildup of fuel and grazing activities that change the community structure leading to increases in white firs (and consequently, a decrease in Washoe pine) as well as changes to the understory species.

Wassuk beardtongue (*Penstemon rubicundus*; Scrophulariaceae) is a robust perennial herb with 12 reported occurrences in Douglas, Mineral, and Esmeralda Counties. It generally grows in areas with mild disturbance including steep decomposed granite slopes, rocky drainage bottoms, roadsides or other recovery disturbances with enhanced runoff in open, rocky to gravelly soils on perched tufa shores. The Wassuk beardtongue is locally abundant on recent burns in the pinyon-juniper, sagebrush, and upper mixed-shrub shadscale zones. The major threats are concerns about hybridization with *P. palmeri* var. *palmeri*, a species used regularly in revegetation seed mixes, and the potential for damage by trampling and grazing.

Webber ivesia (*Ivesia webberi*; Rosaceae) is listed as critically endangered by the State of Nevada. The USFWS has listed this species as a proposed species with a priority of 5 and has recently proposed listing this species as threatened. The four occurrences of this species in Nevada are in the Peavine and Carson Range on mid-elevation terraces, on the west slope of the Pine Nut Mountains in Douglas County, and in Humboldt-Toiyabe National Forest. There are two known occurrences on BLM-administered land. One occurrence is north of Reno and the other occurrence is in Douglas County. All other occurrences overlap with active grazing allotments and Native American allotment land. It has very specific soil requirements including a shallow shrink-swell clay soil with a gravel surface layer over volcanic, generally andesitic bedrock, on mid-elevation benches and flats. Threats include grazing by high concentrations of livestock, competition with aggressive nonnative grasses and noxious weeds,

high-use disturbances created by OHV, dozer lines used in fire suppression, urban development, and widening of adjacent roads.

Webber's ivesia is found on clay soils within the pinyon juniper forest. At present the species occupies 32.1 acres on BLM-administered land. Much of the habitat is on private land and is under consideration for future development. The USFWS has listed this species as a proposed species with a priority of 5. Given that most of the habitat is on private lands that USFWS has stated that occurrences of Webber's ivesia on BLM-administered lands are crucial for the survival of this species. Little is known of the condition of this species on BLM-administered land. Limited monitoring and surveying of this species has been conducted.

Williams combleaf (*Polycytenium williamsiae*; Brassicaceae) is a small perennial aquatic or aquatic dependent herb in Washoe, Lyon, Douglas, Mineral and Nye Counties as well as California and Oregon. It grows in relatively barren sandy to clay or mud margins and at bottoms of nonalkaline seasonal lakes perched over volcanic bedrock in sagebrush, pinyon-juniper, and mountain sagebrush zones. Williams combleaf is fully protected by the State of Nevada and is protected in an ACEC in the planning area. Threats include trampling by livestock and feral horses, water diversions and development, and off-highway vehicles.

Windloving buckwheat (*Eriogonum anemophilum*; Polyganaceae) has been documented in Churchill, Washoe, Pershing, Humboldt, and Lander Counties, Nevada. It has an elevation range of 4,750 to 9,836 feet, and can become established in a variety of soil types. Most common habitat types documented are high elevation mountain ridges and slopes in gravel or volcanic outcrops co-occurring with low sagebrush (*Artemisia arbuscula*), green rabbitbrush (*Chrysothamnus viscidiflorus*), sandberg bluegrass (*Poa secunda*), squirreltail (*Elymus elymoides*), and King's Sandwort (*Arenaria kingii*), as well as, low elevation populations in dry, barren, undisturbed hillsides with light-colored clay soils co-occurring with spineless horsebrush (*Tetradymia canescens*), rubber rabbitbrush (*Ericameria nauseosa*), green rabbitbrush (*Chrysothamnus viscidiflorus*), shadscale (*Atriplex confertifolia*), bottlebrush squirreltail (*Elymus elymoides*), basin wildrye (*Elymus cinereus*), and Torrey's milkvetch (*Astragalus calycosus*).

Wildlife. The primary key habitat types that support BLM sensitive animal species found in the planning area are intermountain cold desert scrub, lower montane woodlands, sagebrush, and springs and springbrooks. Other key habitats are sparsely distributed in small acreages throughout the planning area and include; Aspen Woodland, Barren Landscapes, Cliffs and Canyon, Desert Playas and Ephemeral Pools, Grasslands And Meadows, Intermountain Rivers and Streams, Lakes and Reservoirs, Sand Dunes And Badlands, Sierra Conifer Forests and Woodlands, and Wet Meadows. Details of key habitats, as well as unique and specialized habitats, are described under **Section 3.2.4, Vegetation.**

The distribution, trend, and status for each species listed in **Table 3-14**, BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area, is based on the NatureServe Explorer website, 2006 Revised Nevada Bat Conservation Plan, 2013 Nevada Wildlife Action Plan, 2007 Atlas of the Breeding Birds of Nevada, and 2010 Nevada Comprehensive Bird Conservation Plan (NatureServe 2011; Great Basin Bird Observatory 2010; Floyd 2007; Bradley 2006; NDOW 2013).

Table 3-14
BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area

Wildlife	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
Birds		
Bald eagle <i>Haliaeetus leucocephalus</i>	Only 3 known breeding locations. Winters in low numbers. Trend is stable or increasing with recent winter increases in Carson Valley.	Intermountain Rivers and Streams, Lakes and Reservoirs, Sierra Conifer Forests and Woodlands
Brewer's sparrow <i>Spizella breweri</i>	Breeds in planning area. Declining across the west.	Sagebrush and Cold Desert Scrub
Ferruginous hawk <i>Buteo regalis</i>	Winters in the Lahontan Valley and scattered year-round elsewhere. Trend is stable.	Intermountain Rivers and Streams, Sagebrush, Lower Montane Woodlands
Golden eagle <i>Aquila chrysaetos</i>	Wide year-round distribution. Trend is declining regionally and in Nevada.	Cliffs and Canyons, Sagebrush, and Lower Montane Woodland
Greater sage-grouse <i>Centrocercus urophasianus</i>	See Figure 2-6 for distribution of Bi-state and Great Basin populations. Trend is declining.	Sagebrush, Springs and Springbrooks, & Wet Meadows
Lewis woodpecker <i>Melanerpes lewis</i>	Known breeding in the Carson Range and migration in the Lahontan Valley and near Pyramid Lake. Trend is thought to be declining.	Aspen Woodland & Sierra Conifer Forests and Woodlands
Loggerhead shrike <i>Lanius ludovicianus</i>	Year-round distribution. Trend is declining.	Cold Desert Scrub & Sagebrush
Northern goshawk <i>Accipiter gentilis</i>	Year-round distribution. Have been documented in the Carson, Wassuk, Pine Nut, Clan Alpine, & Desatoya Mountain Ranges	Aspen Woodland
Peregrine falcon <i>Falco peregrinus</i>	Migration and or wintering in the Lahontan Valley, Lake Tahoe Basin, & Walker River floodplain. Trend is increasing outside of the Great Basin; therefore recolonization of breeding territories in the planning area may occur in the near future.	Cliffs and Canyons & Marshes

Table 3-14
BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area

Wildlife	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
Pinyon jay <i>Gymnorhinus cyanocephalus</i>	Year-round distribution with trend in decline. Age profile and structural features of pinyon-juniper woodlands is thought to be a primary reason for declining trend.	Lower Montane Woodlands
Sage thrasher <i>Oreoscoptes montanus</i>	Distribution is breeding only. Trend is thought to be stable or in slight decline	Sagebrush & intermountain cold desert scrub primarily where contiguous or interspersed with sagebrush
Snowy plover <i>Charadrius alexandrinus</i>	Known to breed at the Stillwater National Wildlife Refuge and Carson Lake in the Lahontan Valley, Walker Lake, and Pyramid Lake. Trend is declining regionally but not well quantified in the Great Basin.	Desert Playa and Ephemeral Pools
Swainson's hawk <i>Buteo swainsoni</i>	Breeding distribution primarily where agricultural lands exist in proximity to nesting trees and open shrublands. Trend is declining range wide but currently unknown for the planning area.	Agricultural Lands and Intermountain Rivers and Streams
Western burrowing owl <i>Athene cunicularia hypugaea</i>	Breeding distribution. Trend in the planning area is currently unknown.	intermountain cold desert scrub & Sagebrush
Mammals		
Big brown bat <i>Eptesicus fuscus</i>	Widespread year-round distribution. Considered secure but listed as special status species because of high concern over the unknown potential of white-nose syndrome moving to the western states.	Hibernates in winter but locations unknown. Multiple habitats used. Caves, trees, buildings, mines, and bridges used as roost sites.
Desert bighorn sheep <i>Ovis canadensis nelsoni</i>	Year-round distribution. Trend is increasing in planning area due to reintroductions and augmentations by NDOW.	Cliffs and Canyons
Brazilian free-tailed bat <i>Tadarida brasiliensis</i>	Summer resident. Considered vulnerable in Nevada.	Multiple habitats used. Roosts include cliff faces, mines, caves, buildings, bridges, and hollow trees. Colonies number from a few hundred to several thousand in Nevada.

Table 3-14
BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area

Wildlife	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
California myotis <i>Myotis californicus</i>	Widespread year-round distribution but mostly hibernates in winter. Considered secure in Nevada but listed as special status species because of high concern over the unknown potential of white-nose syndrome moving to the western states.	Multiple habitats used. Roosts include cliff faces, mines, caves, buildings, bridges, and hollow trees.
Dark kangaroo mouse <i>Microdipodops megacephalus</i>	Year-round but hibernates in winter. Trend is in decline in Nevada but apparently secure globally.	Intermountain Cold Desert Scrub & Sagebrush
Fringed myotis <i>Myotis thysanodes</i>	Year-round resident but mostly hibernates in winter. Considered imperiled in Nevada.	Multiple habitats used. Roosts include mines, caves, buildings, and trees.
Hoary bat <i>Lasiurus cinereus</i>	Summer resident but spatial distribution data is limited. Trend in Nevada unknown but listed as special status species because of high concern over the unknown potential of white-nose syndrome moving to the western states.	Tree roost sites are most important.
Little brown myotis <i>Myotis lucifugus</i>	Year-round resident but mostly hibernates in winter. Considered vulnerable in Nevada.	Multiple habitats used. Roosts include mines, caves, buildings, and trees.
Long-eared myotis <i>Myotis evotis</i>	Year-round resident but mostly hibernates in winter. Considered secure in Nevada but listed as special status species because of high concern over the unknown potential of white-nose syndrome moving to the western states.	Multiple habitats used. Roosts include crevices, mines, caves, buildings, bridges, and hollow trees.
Long-legged myotis <i>Myotis volans</i>	Year-round resident but mostly hibernates in winter. Considered secure in Nevada but listed as special status species because of high concern over the unknown potential of white-nose syndrome moving to the western states.	Multiple habitats used. Roosts include crevices, mines, caves, buildings, bridges, and hollow trees.
Pale kangaroo mouse <i>Microdipodops pallidus</i>	Year-round resident with some populations considered to be in decline. Considered to be imperiled in Nevada.	Cold Desert Scrub

Table 3-14
BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area

Wildlife	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
pallid bat <i>Antrozous pallidus</i>	Year-round resident but mostly hibernates in winter. Considered vulnerable in Nevada.	Multiple habitats used. Roosts include rock outcrops, mines, caves, buildings, bridges, and hollow trees.
Pika <i>Ochotona princeps</i>	Only known locations are in the Carson and Desatoya mountain ranges. Populations may exist in the Pilot Table mountains. Trend for pikas in the Great Basin is declining.	Cliffs and Canyons & Grasslands and Meadows
Pygmy rabbit <i>Brachylagus idahoensis</i>	Distribution poorly understood. No good estimates regarding their trends.	Sagebrush
Silver-haired bat <i>Lasionycteris noctivagans</i>	Distribution poorly understood. Considered vulnerable in Nevada.	Lower Montane woodland, Aspen Woodland & Sierra Conifer Forests and Woodlands
Spotted bat <i>Euderma maculatum</i>	Year-round resident but mostly hibernates in winter. Considered imperiled in Nevada. Information lacking for this species.	Rocky cliffs most important.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Year-round resident but mostly hibernates in winter. Considered imperiled in Nevada. Information lacking for this species.	Multiple habitats used, but caves and mines most important.
Western pipistrelle <i>Parastrellus hesperus</i>	Year-round resident but mostly hibernates in winter. Considered secure in Nevada but listed as special status species because of high concern over the unknown potential of white-nose syndrome moving to the western states.	Cliffs and Canyons
Western red bat <i>Lasiurus blossevillei</i>	Distribution largely unknown but thought to just be a migrant. Very rare in Nevada.	Various wooded habitats.
Western small-footed myotis <i>Myotis ciliolabrum</i>	Year-round resident but mostly hibernates in winter. Considered vulnerable in Nevada.	Multiple habitats used. Roosts include cliff faces, mines, caves, buildings, bridges, and hollow trees.
Yuma myotis <i>Myotis yumanensis</i>	Year-round resident but hibernates in winter. Considered vulnerable in Nevada.	Multiple habitats used. Roosts include crevices, mines, caves, buildings, bridges, and hollow trees.

Table 3-14
BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area

Wildlife	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
Reptiles and Amphibians		
Dixie Valley toad <i>Anaxyrus boreas ssp.</i>	Only found in vicinity of Dixie Valley hot springs. Trend unknown.	Playas and Ephemeral Pools
Northern leopard frog <i>Lithobates pipiens</i>	Permanent year-round resident with historic known records from Churchill, Douglas, Lyon, Storey, and Washoe Counties within the planning area. Considered imperiled in Nevada with a global population trend down.	Springs and Springbrooks, & Wet Meadows
Shasta alligator lizard <i>Elgaria coerulea shastaensis</i>	Trend, distribution and status unknown in the Planning area.	Conifer Forests and Woodlands
Invertebrates		
Bee <i>Anthophora sp. nov. 1</i>	Unknown	Sand Dunes and Badlands
Bee <i>Hesperapis sp. nov. 2</i>	Unknown	Sand Dunes and Badlands
Bee <i>Perdita haigi</i>	Unknown	Sand Dunes and Badlands
Bee <i>Perdita sp. nov. 3</i>	Unknown	Sand Dunes and Badlands
Click beetle <i>Cardiophorus ssp. nov.</i>	Unknown	Sand Dunes and Badlands
Carson Valley silverspot <i>Speyeria nokomis carsonensis</i>	Current distribution unknown. Historic records from Alpine, Carson City, Douglas, Lyon, and Washoe Counties. Considered critically imperiled in Nevada.	Grasslands and Meadows
Early blue or Dotted blue butterfly <i>Euphilotes enoptes primavera</i>	Records only exist from Mineral County in the Wassuk Range. Trend unknown considered critically imperiled in Nevada.	Unknown
Great Basin small blue butterfly <i>Philotiella speciosa septentrionalis</i>	Distribution unknown but type locality is from Fort Churchill Road in Lyon County. Trend unknown considered critically imperiled in Nevada.	Unknown
Hardy's Aegialian scarab <i>Aegialia hardyi</i>		Sand Dunes and Badlands
Sand Mountain Aphodius scarab <i>Aphodius sp. 3</i>	Distribution restricted to Sand Mountain dune area	Sand Dunes and Badlands

Table 3-14
BLM Designated Sensitive Wildlife Species Known or Potentially Found in the Planning Area

Wildlife	Seasonal Distribution & Trend in Planning Area	Dominant and/or Relevant Key Habitat Type (s)
Sand Mountain blue butterfly <i>Euphilotes pallescens arenamontana</i>	Only found at Sand Mountain dune. Trend thought to be in decline	Sand Dunes and Badlands supporting Kearney buckwheat
Sand Mountain Pygmy scarab Beetle <i>Coenonycha pygmaea</i>	Only found at Sand Mountain dune.	Sand Dunes and Badlands
Molluscs		
Ovate Cain Spring pyrg <i>Pyrgulopsis pictilis</i>	Unknown distribution and trend	Springs and Springbrooks
Wongs pyrg <i>Pyrgulopsis wongi</i>	Records for Douglas and Mineral Counties. Trend unknown.	Springs and Springbrooks

Greater sage-grouse are a sagebrush-obligate species, requiring large, intact, interconnected expanses of sagebrush for nesting, brooding, fall and winter cover and forage. Sage-grouse are ground-nesters and their key habitat components include adequate understory cover of tall grasses and medium-height shrubs for nesting, abundant forbs and insects for brood rearing, and availability of herbaceous riparian species for late growing-season foraging. Courtship displays are conducted on leks, which are open sites, often surrounded by denser sagebrush cover, used year after year. Lekking periods for greater sage-grouse generally occurs between early March and mid-May. Greater sage-grouse were historically found throughout the Great Basin but populations have declined and fragmented throughout much of their range. Within the CCD, greater sage-grouse are found in the Central Nevada/Southern Great Basin population area, as well as in the Bi-State Distinct Population Segment, which is geographically and genetically isolated from other populations of greater sage-grouse. The Bi-State Distinct Population Segment is located near Mono Lake and the White Mountains and threatened by fragmentation and loss of habitat to infrastructure and human development. The Central Nevada GRSg population is larger and threatened primarily by pinyon-juniper encroachment into sagebrush and spread of cheatgrass, discussed above in **Section 3.2.4, Vegetation**. Over-grazing, urbanization, infrastructure such as roads and power lines, and wildfire are also considered threats to the sagebrush ecosystem that greater sage-grouse depend upon (Federal Register Vol.75, No.55, pp. 13910-14014). The current distribution of greater sage-grouse in the CCD is shown in **Figure 2-6, Alternative A: Greater and Bi-state Sage-Grouse Habitat**

According to Hagen et al. (2007), ideal greater sage-grouse nesting and brood-rearing habitat contains taller sagebrush (greater than 20 inches) with 15 to 25 percent canopy cover, at least 10 percent forb cover, and greater than 15

percent grass cover (Hagen et al. 2007). Also, Sveum et al. (1998) observed higher nesting success for structures placed in sagebrush steppe habitat with grasses taller than 18 centimeters (7.1 in) due to decreased predation than in sagebrush steppe areas with lower grasses. In nesting habitat with high raven populations, however, Coates and Delehanty (2010) suggest that sagebrush cover from 20 to 30 percent with total shrub cover greater than or equal to 40 percent is the most ideal at preventing ravens from predating on greater sage-grouse nests. As the summer progresses, hens with broods relocate to wet meadows and riparian areas abundant with forbs and grasses that are near sagebrush (Connelly et al. 2000).

Snow depth determines the areas available to greater sage-grouse during the winter. In general, ideal winter habitat contains tall, vigorous sagebrush that extends above the snow and exhibits sufficient canopy coverage (Connelly et al. 2000).

Standards and Guidelines for Rangeland Health

There are five standards in the 2007 Standards and Guidelines for Rangeland Health (BLM 2007a). Standard 5: Special Status Species Habitat is listed below. **Appendix D** contains a full description of the standards and guidelines.

Standard 5: Special Status Species Habitat. Habitat conditions meet the life cycle requirements of special status species, as indicated by:

- Habitat areas are large enough to support viable populations of special status species.
- Special status plant and wildlife numbers and ages appear to ensure stable populations.
- Good diversity of height, size, and distributions of plants
- Number of wood stalks, seed stalks, and seed production are adequate for stand maintenance.
- Vegetative mosaic, vegetation corridors for wildlife, and minimal habitat fragmentation.

In 2003 to 2012, 38 allotments within the planning area were assessed for adherence to Standard 5: Special Status Species Habitat (see **Section 3.2.4, Vegetation**, for more information on the Rangeland Health Assessments done for the planning area):

- 1 percent (28,786 acres) did not require this standard.
- 53 percent (1,105,187 acres) was rated as fully meeting the standard.
- 46 percent (979,798 acres) had problems of enough significance to not meet the standard.

Key Features (Plants and Animals)

The BLM will continue to focus management and protection efforts on special status species and their habitats (See **Tables 3-12** thru **3-14** and **Section 3.2.4**, Vegetation). Key features and areas include core populations, historic habitats, occupied and suitable habitats (particularly those near known populations), and important landscape connectivity features such as movement corridors. In addition to Key habitats, other rare, unique, or diverse habitats are important. The BLM will continue to improve its knowledge base of the distribution and status of these species across the planning area and will develop and apply standardized protection measures to enhance the conservation and recovery of these species.

Resource Changes*Trends*Special Status Plant Species

The future of most special status plant species within the planning area depends on the degree to which threats can be eliminated or ameliorated, and populations and their habitat can be restored and protected. With time and improved management practices, areas currently not meeting land health standards are expected to improve. However, some degraded areas, such as those dominated by cheatgrass or other weeds, may continue in their present condition, or possibly become worse. As demand for resource values increases, these trends are likely to continue into the future.

Noxious weeds within the area of Steamboat buckwheat will increase if major efforts are not undertaken to prevent its spread. Herbicides are the only known effective treatment against perennial pepperweed, but the proximity of an endangered plant makes herbicide application extremely difficult and potentially hazardous to the buckwheat unless great care is exercised in herbicide application. According to the Steamboat buckwheat Recovery Plan the alteration of the natural processes in the area will mean that the soil will not be replenished with sinter, an element present in the geothermal hot springs that was formerly brought to the surface by active geysers. The Steamboat buckwheat is dependent on sinter as a nutrient. The buckwheat will continue to survive on sinter already in the soil, however there is concern that the existing sinter, at some point in the future, will be depleted and the buckwheat will be unable to survive. Based on these projections, the species will never leave the endangered species list and will, at some point in the future, become extinct.

The limited monitoring of the Churchill Narrows buckwheat shows a downward trend. There are only 11 acres of occupied habitat known on a global scale. Using the NatureServe ranking system (NatureServe 2011) the species would be considered extremely endangered. The diatomaceous earth deposits are a nonrenewable resource and limited in size and extent. Continued mining in the

region would further diminish available habitat for the species. Rodent predation on the root system kills individual plants and grazing by wildlife, wild horses, and cattle are further threats. Currently there are limited impacts by off highway vehicles. Given the continued strong interest in mining of diatomaceous earth deposits in the area, there is potential for further threats.

Special Status Wildlife Species

By definition, the populations, and often habitats, of all special status wildlife species have historically suffered downward trends. However, due to protection and recovery efforts, some populations (such as peregrine falcon and bald eagle) are stabilizing range-wide while others are in decline (such as golden eagle, pinyon jay). While management efforts by the USFWS, NDOW, BLM, and others have reversed the downward trend for some special status species populations, none are thought to be near their historic levels, and most remain biologically insecure, regardless of their legal status.

Current and future threats include habitat loss and fragmentation, poaching, predation, disease, invasive species, and others. Both historic and current over grazing by livestock and horses have contributed to the loss of habitat for special status species (current livestock grazing impacts should decrease as rangeland health assessments are completed for each allotment when it is time to renew permits). Habitat fragmentation leading to degradation and loss are caused by, or exacerbated by, historic overgrazing, energy development, mining, water diversions, recreation, agriculture, residential development, and other human activities. Natural processes such as fire, drought, vegetation type conversions- especially pinyon/juniper encroachment into sagebrush- and increased density, and climate change may also contribute to landscape changes over time. It is not known which species will be able to adapt to these changes and persist over time. Pinyon-juniper, riparian, sagebrush, and salt desert scrub have been determined to be at-risk habitats and harbor many of our special status and rare species. Vegetation type conversion from sagebrush or aspen to pinyon-juniper would expand habitat for pinyon-juniper dependent species but reduce habitat for species dependent on sagebrush or other habitat they were replacing. BLM management is designed to promote a mix of habitats to support special status species.

Rangeland Health Observations

Healthy plant communities typically translate into healthy habitats for fish and wildlife. Therefore, most sites that meet Standard 4 (for Healthy Native Plant and Animal Communities) also meet Standard 5 (for Special Status Species). However, because special status species are typically restricted in their range and have narrower habitat requirements, achieving Standard 4 does not necessarily guarantee that Standard 5 will be met. Conversely, an area may have failed to meet Standard 4 but met Standard 5 simply because no special status species or habitat occurs in an area. Where a site failed to meet, or fell short, of land health standards, the problems entailed one or more of those identified for

common fish and wildlife. (Refer to the *Trends* subsection of **Section 3.2.5**, Fish and Wildlife for a list of the most common land health problems observed across the planning area and a description of causal factors.)

Forecast

Special Status Plant Species

For Steamboat buckwheat, noxious weeds within the area are likely to increase and the species will never leave the endangered species list and will, at some point in the future, become extinct for reasons described under the trends subheading.

The limited monitoring of the Churchill Narrows buckwheat shows a downward trend. There are only 11 acres of occupied habitat known on a global scale. Using the NatureServe ranking system (NatureServe 2011) the species would be considered extremely endangered. The diatomaceous earth deposits are a nonrenewable resource and limited in size and extent. Continued mining in the region would further diminish available habitat for the species. Rodent predation on the root system kills individual plants and grazing by wildlife, wild horses, and cattle are further threats. Currently there are limited impacts by off highway vehicles. Given the continued strong interest in mining of diatomaceous earth deposits in the area the forecast for the species is not good and it is likely that the USFWS will list the species as endangered.

In general, the forecast for BLM sensitive plants under current management may decline because of inadequate consistent protections from energy development, wild horses, grazing and unrestricted OHV use.

Special Status Wildlife Species

The future of most special status wildlife species within the planning area depends on the degree to which threats can be eliminated or ameliorated, and populations and their habitat can be restored and protected. With time and improved management practices, areas currently not meeting land health standards are expected to improve. However, some degraded areas, such as those dominated by cheatgrass or other weeds, may continue in their present condition, or possibly become worse. As demand for resource values increases, these trends are likely to continue into the future.

Renewable energy-related projects have the potential to adversely impact wildlife habitat and populations. Other uses such as livestock grazing, wild horses, mining, water use, realty actions, and recreation may also have negative impacts. Streams could potentially be affected by development activities, resulting in increased sedimentation and adverse changes in water quality and aquatic habitat. Springs and wet meadows are especially vulnerable from anthropogenic and natural factors and when negatively impacted have a far greater impact on special status wildlife species. This is because this key habitat makes up only about 5 percent of the acreage but 80 percent of all wildlife

species depend on these systems. To a degree, some trends are a result of natural factors, such as drought and disease, and may be beyond management's control. In light of this, restoring and maintaining key habitats that can be resistant and resilient to natural disturbances such as climate fluctuations, fire, and disease is very important. Conservation efforts can be improved by obtaining more complete information on the biology and distribution of special status wildlife species within the planning area, as well as by monitoring these populations.

3.2.7 Wild Horse and Burros

Wild horse and burro management within BLM-administered lands of the CCD follows the Wild Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195) and 43 CFR Part 4700 – Protection, Management and Control of Wild and Free-Roaming Horses and Burros.

The general management objectives for wild horses and burros are to protect, maintain, and control viable, healthy herds while retaining their free-roaming nature; provide adequate habitat through the principles of multiple use and environmental protection; maintain a thriving natural ecological balance with other resources; provide opportunities for the public to view wild horses and burros; and protect wild horses and burros from unauthorized capture, branding, harassment, or death.

The 53.8 million acres across the Western US where wild horses or burros were found roaming at the time the 1971 Wild Free-Roaming Horses and Burros Act was passed are known as herd areas (HAs). A subset of these areas (approximately 31.6 million acres nationwide in 2012) have been determined suitable for long-term management of wild horses and burros and are known as herd management areas (HMAs). Wild horses and burros within HMAs are managed with the goal of maintaining sustainable ecological conditions and multiple use and sustained yield relationships on federal lands. Both HAs and HMAs can include private or state lands, but BLM has management authority only over BLM-administered lands.

Wild horse and burro populations are managed within AMLs, the point at which wild horse and burro herd populations are consistent with the land's capacity to support them. The AML is a range of low to maximum levels that allows for population growth over a 4- to 5-year period. Each HMA has its own AML.

In Nevada, AML of wild horses and burros are generally determined through the multiple-use decision process. This process begins with an evaluation of range conditions; the evaluation assesses whether or not management and stocking levels for livestock, wild horses and burros, and wildlife are achieving rangeland objectives per the Sierra Front-Northwestern Great Basin Standards and Guidelines for Rangeland Health (BLM 2007a) as outlined in **Appendix D**. If rangeland health objectives are not being met, changes in management or stocking levels are proposed. Proposed changes to AMLs are analyzed in an

environmental assessment. AML decisions may be documented in a Proposed or Final Multiple-Use Decision or a Wild Horse Decision. In addition, Herd Management Area Plans are developed to establish short- and long-term management and monitoring objectives for wild horse or burro herds and their habitat. Herd Management Area Plans include herd and habitat objectives, monitoring methods and schedules, the upper and lower limit of the population range, and criteria for selective removal animals, if any. Herd Management Area Plans may also address the method of population control and any restrictions on other resource uses or users. Methods of herd population control include periodic gathers and removal to short-term holding and adoption or long-term holding, as well as methods of population growth suppression, including treatment with fertility control drugs where approved. The initiation of gathering or other population growth suppression is based on inventory data, herd health, rangeland health, climatic conditions, and occurrence of catastrophic events such as wildland fire and drought.

Current Conditions

Within California and Nevada, the BLM and Forest Service manage approximately 130 HMAs and herd territories, the Forest Service equivalent of an HMA. These HMAs and territories comprise approximately 20 million acres. The Forest Service has not established AMLs but has estimated that an AML of approximately 2,000 horses and burros could be established on their herd territories. The BLM has established a combined total AML for horses in California and Nevada of approximately 13,800 horses and 1,300 burros.

Twenty-one HAs were originally identified within the planning area. Of these areas, two (Pah Rah and Horse Springs) are classified as HAs, while the remaining areas are managed as HMAs. Geographic locations are displayed in **Figure 2-8**, Alternative A: Wild Horse and Burro Herd Areas and Herd Management Areas.

Currently the Pah Rah Mountains and Horse Springs HAs, as well as the southern portion of the Pine Nut Mountains HA, are not managed for wild horses due to a checkerboard pattern of public and private land that makes management unfeasible in these areas. All wild horses were removed from the Pah Rah Mountain Range in 1984. Since 1984, however, some horses have moved over from the Pyramid Lake Indian Reservation. Substantial areas of the Pah Rah Mountains consist of steep terrain with limited road access, so capture attempts have not kept up with immigration and reproduction; therefore, a population of horses currently occupies the Pah Rah Mountains. These horses are classified as stray animals under Nevada State Laws and are not wild horses under the Wild Horse and Burro Act; therefore, they are not managed by the BLM.

There are 17 HMAs in the planning area supporting wild horses or burros on an area comprising 1,367,685 million acres. Horse Mountain (52,222 acres) and

Tule Ridge/ Mahogany Flat (4,009 acres) do not support any wild horses or burros but are still classified as HMAs at this time. The only burros found in the planning area are in the Marietta Wild Burro Range, with a current estimate of 172 burros. The total horse AML for the CCD is 2,508, with a current estimate of 2,571 horses.

The planning area has seven HMAs that extend beyond the CCD boundary. These HMAs have each been assigned a lead district. The CCD is the lead district for the Desatoya and Pilot Mountain HMAs, which share a boundary with the Battle Mountain District. The Fort Sage HMA is shared with the Susanville District, which has the lead. The North Stillwater and Augusta Mountains HMAs are shared with the Winnemucca District, which has the lead. The New Pass-Ravenswood HMA is shared with the Battle Mountain District, which has the lead. The Montgomery Pass HMA is shared with the Humboldt-Toiyabe Forest Service, which has the lead.

More detailed information on individual HAs/HMAs is listed in the descriptions for individual areas, below, and in **Table 3-15, CCD Wild Horse and Burro Management Areas**.

Augusta Mountains HMA is located in the Augusta Mountains northeast of Fallon, Nevada. The HMA is situated within three districts, with the BLM Winnemucca District having lead responsibilities. The CCD portion of the HMA is rolling hills and mountainous terrain, with substantial portions covered with pinyon juniper.

Clan Alpine HMA is centered in the Clan Alpine Mountains northeast of Fallon, Nevada and south of the Augusta Mountains HMA. The HMA is mostly mountainous terrain. Due to several large fires within the HMA, the majority of the wild horse population was removed to allow the vegetation community to become reestablished. This population is increasing at a low rate, possibly due to mountain lion predation. Substantial areas of this HMA that were not burned are covered with pinyon juniper.

Desatoya HMA is east of the Clan Alpine HMA and centered in the Desatoya Mountains. The HMA lies within two BLM districts; the CCD has the lead responsibilities. The Desatoya HMA is mostly covered in pinyon juniper, and there is currently overuse of the upland grasses. A gather conducted in August 2012 captured 429 animals. Twenty-four stallions were re-released into the HMA, and the remaining animals were sent to adoption facilities/long-term pastures.

Dogskin Mountain HMA is north of Reno, Nevada, and centered in the Dogskin Mountain Range. This area receives substantial OHV use. During January 2012 the majority of the horses would not respond to helicopter herding techniques, possibly due to harassment from motorcycle riders, making capture difficult.

Table 3-15
CCD Wild Horse and Burro Management Areas

Management Area	Status	AML	Current No. of Horses (August 2013)	BLM Acres Carson City	Acres Entire HMA	HMA Plan Date	Lead District
Augusta Mountains	HMA	42-71 ¹ 185-308 ²		90,347	178,929		Winnemucca
Clan Alpine	HMA	612-979	503	313,122	304,763	1993	Carson City
Desatoya	HMA	73-98 ¹ 127-180 ²	174	23,110	162,962	2003	Carson City ³
Dogskin Mountains	HMA	10-15	29	6,871	6,605	2005	Carson City
Flanigan	HMA	80-124	119	16,181	17,362	1990	Carson City
Fort Sage	HMA	36 ⁴	67	2,043	16,138		Susanville
Garfield Flat	HMA	83-125	99	135,974	144,118	2004	Carson City
Granite Peak	HMA	11-18	18	3,862	4,052	1993	Carson City
Horse Mountain	HMA	60-118	0	52,222	50,319	1991	Carson City
Horse Spring	HA	NA	0	28,676	25,691	n/a	Carson City
Lahontan	HMA	7-10	36	10,446	9,686	2004	Carson City
Marietta	HMA	78-104	144	66,500	66,694	1987	Carson City
Montgomery Pass	HMA	NA	286 ⁵	38,615	207,921	FS	Forest Service has lead
New Pass-Ravenswood	HMA	69-90		24,699	287,948	1993	Battle Mt.
North Stillwater	HMA	49	58	45,773	180,444		Winnemucca
Pah Rah Mountains	HA	NA	0	7,164	23,514	n/a	Carson City
Pilot Mountain	HMA	228-346 ¹ 249-415 ²	402	255,040	481,391		Carson City ³
Pine Nut Mountains	HMA	119-179	293	90,900 ⁶	105,594		Carson City
South Stillwater	HMA	16	9	9,940	9,864	1995	Carson City
Tule Ridge/Mahogany Flat	HMA	NA	0	4,009	4,401		Carson City
Wassuk	HMA	109-165	139	51,742	52,309		Carson City

1-AML for the Carson City portion of the HMA

2-AML for the entire HMA

3-A portion of the HMA is located outside of the CCD, however the CCD is the lead district

4- Susanville has lead AML probably has not been set through and analysis of monitoring data

5-All but 35 head were in CA, most of the 35 head were on land administered by the Forest Service.

6-The HMA is 90,000 BLM acres the HA is 182,668 acres. The southern portion of this HMA was reverted back to HA status due to checker board land pattern.

Flanigan HMA is north of Reno, Nevada, and partially borders the Pyramid Lake Indian Reservation. The HMA is mostly mountainous terrain within the Virginia Mountains. A gather conducted in January 2012 in the Flanigan, Dogskin Mountain, and Granite Peak HMAs captured 308 animals; 58 were returned to

home range after treatment with PZP (porcine zona pellucida), as appropriate, and 250 were shipped to adoption facilities/long-term pastures.

Fort Sage HMA is located in both Nevada and California. The BLM Northern California District has lead responsibilities for the HMA. The HMA is north of Reno, Nevada, and west of the Flanigan HMA. The CCD portion of the HMA is 2,043 acres.

Garfield Flat HMA is south of Hawthorne, Nevada. The HMA consists of flat to rolling terrain. Only two permanent water sources exist within this HMA; both are located on private land. In February 2012, a gather was conducted in which 84 animals were gathered, 24 were re-released to home range, and 60 were sent to adoption facilities/long-term pastures.

Granite Peak HMA is north of Reno, Nevada, and west of the Dogskin Mountains HMA. The HMA consists of rolling terrain. There is no permanent water within the HMA. When livestock are present and their associated water troughs are supplied with water, wild horses will use the water troughs. When livestock are absent, the water is turned off at the troughs and wild horses use water sources outside of the HMA. This area receives substantial OHV use. During a recent gather the majority of the horses would not respond to helicopter herding techniques, possibly due to harassment from motorcycle riders, making capture difficult.

The Granite Peak HMA is relatively close to homes along Red Rock Road and the Rancho Haven area. The CCD receives complaints regarding wild horses damaging landscaping or causing problems with domestic horses. Usually the conflicts with domestic horses involve fighting through fences or mating attempts. If a breach of a fence enclosing a mare or mares occurs, the mares are very difficult to recapture. The CCD has received complaints of aggressive stallions approaching horseback riders and residents caring for their domestic horses. These encounters have the potential for serious injury.

Horse Mountain HMA is south of Fallon, Nevada. The HMA consists of rolling to mountainous terrain. The HMA currently has no wild horses. In the past, wild horses in this HMA relied on an irrigation return ditch on private land as their sole source of water. In 2000, changing irrigation practices led to the abandonment of this ditch, and all horses were removed to prevent death from dehydration.

Lahontan HMA is between Carson City and Fallon, Nevada, south of the Lahontan Reservoir. The HMA consists of flat terrain. The sole source of water for this HMA is the Lahontan Reservoir within the Lahontan State Park. In November 2010, 117 wild horses were gathered, 7 were re-released and the remainder shipped to adoption facilities/long-term pastures.

Marietta Wild Burro Range is a designated wild burro range. It is the only designated wild burro range and the only HMA with burros in the planning area. The HMA consists of 66,500 acres of flat to mountainous terrain south of Hawthorne, Nevada. Overuse of native bunch grass by wild burros is occurring. The portion of the range that is within a grazing allotment has not been grazed by domestic livestock for the past several years. The majority of the range is closed to domestic livestock grazing.

Montgomery Pass HMA is within both Nevada and California southwest of Hawthorne, Nevada. The Forest Service has lead responsibilities for management of this HMA, which consists of rolling to mountainous terrain.

New Pass HMA is within the Carson City and Battle Mountain Districts, with Battle Mountain having lead management responsibilities. The HMA is east of Fallon, Nevada, and consists of flat to mountainous terrain. Substantial portions of the Carson City area of the HMA are covered in pinyon juniper.

North Stillwater HMA is within the Carson City and Winnemucca Districts, with Winnemucca having lead management responsibilities. The HMA is northeast of Fallon, Nevada, and consists of mountainous terrain. An AML has only been established for one of three grazing allotments on the CCD portion. An AML of 49 was established for the Copper Kettle Allotment, which comprises approximately half of the CCD portion of the HMA. A range was not set, only the upper limit of 49 horses.

Pilot Mountain HMA is within the Carson City and Battle Mountain Districts. The CCD has lead responsibilities for this HMA. The HMA is south of Hawthorne, Nevada and is comprised of flat to mountainous terrain.

Pine Nut Mountains HMA is south of Carson City, Nevada. Only the northern portion is an HMA. The southern portion is not managed for wild horses, due to blocks of private lands that create access issues for the BLM.

The western edge of the Pine Nut Mountains HMA overlaps homes along and off of Deer Run Road. The CCD receives complaints regarding wild horses damaging landscaping or causing problems with domestic horses. Usually the conflicts with domestic horses involve fighting through fences or mating attempts. To a lesser degree CCD receives complaints in the Dayton, Nevada-area from home owners north of the HMA. This portion of the HMA is fenced, although there are many weak sections of this fence. Wild horses also migrate into the Fish Springs residential area, causing similar problems. In November 2010, a gather was conducted in which 150 horses were gathered. Approximately 109 horses were re-released to the home range, and 41 were shipped to adoption facilities/long-term pastures.

South Stillwater HMA is east of Fallon, Nevada, and consists of mountainous terrain. Accessibility to this HMA is limited. There has never been a gather within this HMA.

Tule Ridge/Mahogany Flats HMA is identified as an HMA; however, wild horses have never been present. Previous inventories identified only domestic horses, and it is assumed the owner removed them. During subsequent inventory flights of the area, no wild horses have ever been observed.

Wassuk HMA is south of Yerington, Nevada, and consists of flat to mountainous terrain with substantial areas of pinyon juniper cover. Livestock have not been placed within this HMA for at least the past several years due to excessive vegetation use by wild horses.

Table 3-16, Wild Horse and Burros Gather Summary, identifies the dates and number of wild horse and burros counted during gathers within the planning area.

Table 3-16
Wild Horse and Burros Gather Summary

Management Area	Status	AML	Census Date	Number Counted	Gather Date	Number Counted/ Gathered	Notes
Augusta Mts	HMA	42-71 ¹	14Nov90	609	Feb91	497	CCD portion The CCD portion Winnemucca District has lead responsibility and complete gather records.
		185-308 ²	7Mar95	125	Aug99	122	
Clan Alpine	HMA	612-979	Aug80	1,920	Fall80	565	Only had one day to inventory; it takes two days for a complete inventory.
			Nov81	1,258	Fall81	663	
			Sep86	1,489	Sep86	798	
			Sep89	1,267	Nov92	58	
			Jul98	1,067	Aug93	61	
			Dec05	442	Feb00	233	
Desatoya	HMA	73-98 ¹ 127-180 ²	Jun86	106	Oct89	118	*includes horses within Battle Mountain District
			Sep92	237	Nov92	124	
			Mar95	126	Jan96	26	
			Jan02	435*	Jul03	207*	
			5Jul11	543*	Feb04	95	
					22Aug12	405*	

¹ AML for the Carson City portion of the HMA

² AML for the entire HMA

³ Susanville manages the HMA

Table 3-16
Wild Horse and Burros Gather Summary

Management Area	Status	AML	Census Date	Number Counted	Gather Date	Number Counted/ Gathered	Notes
Dogskin Mts	HMA	10-15	Aug91	101	Oct91	62	Horses move between Dogskin and Granite Peak HMA; a census and removals could be combined for a more complete picture.
			Jul03	59	Aug94	14	
			Nov05	46	Dec05	36	
			Jul12	7	Jan12	20	
Flanigan	HMA	80-124	1975	130	1976	59	Horses move between the HMA and the Pyramid Lake Reservation when breaks occur in the fence, making counts unreliable. BLM wild horses are indistinguishable from tribal horses.
			Dec79	243	1982	41	
			Jun85	704	1985	351	
			27Aug91	550	Oct91	402	
			12Jul93	213	Aug93	188	
			Jul98	157	Oct/Nov99	191	
			Sep99	64	Mar/Aug01	30	
			6Jul11	314	Jan12	211	
Fort Sage	HMA	36					California BLM has lead responsibility and complete gather records.
Garfield Flat	HMA	83-125	1975	253	1977	183	
			1979	245	1985	380	
			1996	264	1997	174	
			1998	148	1999	12	
			Oct02	142	2004	127	
			Sep08	200	Oct09	135	
Granite Peak	HMA	11-18	Jun11	155	Feb12	60	Horses move between Dogskin and Granite Peak HMA; a census and removals could be combined for a more complete picture.
			Aug91	101	Oct91	62	
			Jul93	72	Aug94	65	
			Jul98	39	Dec00	7	
			Jan02	31	Mar01	27r	
			Apr07	22	Jan02	13	
			Apr10	31	Oct/Nov01	15	
			Jul11	35	Sep/Oct07	6	
			May12	18	Sep09	2	
					Dec10	3	
					Jul11	1	
					Dec11	3	
					Jan12	20	
					Jul/Nov/Dec13	7	

Table 3-16
Wild Horse and Burros Gather Summary

Management Area	Status	AML	Census Date	Number Counted	Gather Date	Number Counted/ Gathered	Notes
Horse Mt	HMA	60-118	Aug91 Jul98 Aug01 Nov03	153 123 0 0	10Aug92 Jul00 Aug01	153 95 107 3	All horses were removed in 2000.
Horse Spring	HA	-----	1975 Sep82	42 25	Jun77 Sep82 Jan83	12 8 20*	Not managed for horses. *declared wild horse free after the Jan83 gather.
Lahontan	HMA	7-10	Aug91 Apr93 Mar95 Nov03 Apr10	233 112 71 261 104	Nov91 Jan94 Jan96 Mar01 Jan04 Nov10	146 69 29 1 269 110	
Marietta	HMA	78-104	May83 May87 Aug97 2007	298 163 111 102	1983 1987 1997 2009	398 357 163 94 111 18 102 15*	*6 burros captured, 9 reported struck and killed by vehicles along highways. The 6 burros were captured because they were habitually sighted on or near U.S. 95.
Montgomery Pass	HMA	-----					Forest Service manages horse populations.
New Pass-Ravenswood	HMA	69-90					Battle Mountain District has lead responsibility and complete gather records.
No. Stillwater	HMA	49					Winnemucca District has lead responsibility and complete gather records.
Pah Rah Mts	HA	-----	1975 Sep84 Feb85	119 1,075 107	1976 Jan85 Aug85	69 1,139 174	All horses removed in 1984. Declared wild horse free on Aug85.
Pilot Mt	HMA	228-346 ¹ 249-415 ²	1987 1993 2003 2005	1,158 891 526 327	1987 1995 2005 2006	652 429 154 99	

Table 3-16
Wild Horse and Burros Gather Summary

Management Area	Status	AML	Census Date	Number Counted	Gather Date	Number Counted/ Gathered	Notes
Pine Nut Mts	HMA	119-179	1975	315	1977	104	During the small removals, less than 50 were nuisance horses removed from the urban interface.
			1978	639	1978	82	
			1981	820	1979	19	
			Sep84	664	1980	110	
			Jun86	466	1981	30	
			Sep86	437	1983	16	
			Nov86	273	Sep84	664	
			Sep89	278	Jul85	235	
			Dec90	351	Dec85	10	
			Jul92	467	Jul86	325	
			Jul93	491	Oct86	12	
			Dec94	486	24Nov86	208	
			Jun95	735	Sep/Nov89	13	
			Jul98	358	Oct90	18	
			Nov00	329	Oct/Nov91	21	
			Nov03	118	Jan/Aug92	22	
			Sep08	117	Nov/Dec92	23	
			Sep10	206	Oct93	49	
			May12	293	Sep/Oct/Dec94	3	
					Feb95	21	
					Dec95	46	
					Feb00	410	
					Nov00	40	
					Nov03	40	
					Nov/Dec06	232	
					Mar/Oct07	25	
					Sep08	14	
					Jan/Sep09	2	
					Nov10	10	
					Jun/Aug11	206	
					Aug/Sep/Nov/Dec12	46	
					Jan/Feb/Dec13	4	
					Jun/Apr14	10	
						20	
						7	
So. Stillwater	HMA	16				0	No removals; population has always been less than 20
Tull Ridge-Mahogany Flat	HMA	-----					No wild horses have been observed.
Wassuk	HMA	109-165	Jan11	519	Nov12	458	

Resource Changes

Due to various constraints, wild horse and burro gathers are not conducted as frequently as needed to maintain a thriving natural ecological balance among wild horse and burro populations, domestic livestock, wildlife, and vegetation. This trend is expected to continue and has become exacerbated by the current drought. The drought impacted some HMAs more than others, which has resulted in the need to remove horses from the impacted HMAs. These drought emergency gathers have resulted in the reprioritizing of the planned gathers, which has resulted in a delay of some gathers.

As the wild horse and burro populations exceed the AMLs, a thriving natural ecological balance among wild horse and burro populations, domestic livestock, wildlife, and vegetation will not be maintained. Initially, the plant and wildlife communities will show signs of deteriorating condition, which is followed by deteriorating conditions of the wild horses and burros. For example, desirable forage plants may become stressed and replaced by more competitive weedy or invasive species.

3.2.8 Wildland Fire Ecology and Management***Local and National Management Guidance***

Wildland fire management activities within the planning area are guided by the 2001 Consolidated RMP (BLM 2001c). The Consolidated RMP specifies desired outcomes, land use allocations, special designations, administrative actions, and standard operating procedures. Management actions and objectives in the 2001 Consolidated RMP have been amended by updated national fire management policy and the Carson City Field Office Fire Management Plan (BLM 2004a). Current management direction allows fire to be restored as an integral part of ecosystems to meet resource management objectives. It also identifies activities to improve protection of human life and property through aggressive fire protection, reduction of hazardous fuels, and restoration of fire-damaged ecosystems.

National policy influencing fire management in the planning area includes the Federal Wildland Fire Management Policy. The intent of the Federal Wildland Fire Management Policy is to solidify the full range of strategic and tactical options available and considered in response to every wildland fire. These options are used to achieve objectives as described in Land and Resource Management Plans and/or Fire Management Plans, subject to clear processes defined to manage fires that cross jurisdictional boundaries. The Federal Wildland Fire Management Policy also calls for increased dialogue and collaboration between federal, tribal, local, and state agencies as plans are updated and implemented to manage wildfires in order to accomplish resource and protection objectives.

Under the Federal Wildland Fire Management Policy, federal land management agencies with vegetation capable of sustaining wildland fire are required to prepare Fire Management Plans. The Fire Management Plan is a strategic plan that defines wildland fire management and prescriptive vegetation treatments. The foundation of the Fire Management Plan is the agency's land use plan. Fire Management Plans are dynamic documents that are reviewed annually and updated whenever better information is available. The plan is supplemented by operational plans, such as preparedness plans, dispatch plans, prescribed fire plans, and prevention plans.

The Carson City Field Office Fire Management Plan (BLM 2004a) addresses fire suppression, prescribed fire, nonfire fuel treatments, and community assistance and education for all portions of the Western Nevada Fire Planning Unit with burnable vegetation under BLM administrative jurisdiction.

Fire Management Units (FMUs)

The CCD is currently divided into 15 Fire Management Units (FMUs) (**Table 3-17**, Fire Management Units for the Carson City District). The FMUs are scaled to best define the fire management objectives, physical characteristics, resource values, and fire planning attributes. Each of the FMUs are also somewhat unique, as evidenced by management strategies, objectives, values, and fire planning attributes that set it apart from the management characteristics of an adjacent FMU. Each FMU is assigned a classification type to define its primary resource management strategy. The general FMU category types are listed below:

- Wildland Urban Interface (WUI)
- Special Management Areas (SMA)
- High Value Habitat (HVH)
- Cultural/Historic (CHP)
- Vegetation (VEG)
- Wilderness (WLD) and Wilderness Study Areas (WSA)

Fire Regime Condition Class (FRCC)

National and state BLM fire policy require current and desired resource conditions related to fire management to be described in terms of three condition classes. The Fire Regime Condition Classification (FRCC) System measures the extent to which current vegetation conditions differ from a particular reference condition. Departures from reference condition could be a result of changes to key ecosystem components such as vegetation characteristics, fuel composition, fire frequency, fire severity, and pattern, as well as other associated disturbances, such as insects and disease mortality. The classification system is used to categorize existing ecosystem conditions and to determine priority areas for treatment (**Figure 3-4**, Fire Regime Condition Class).

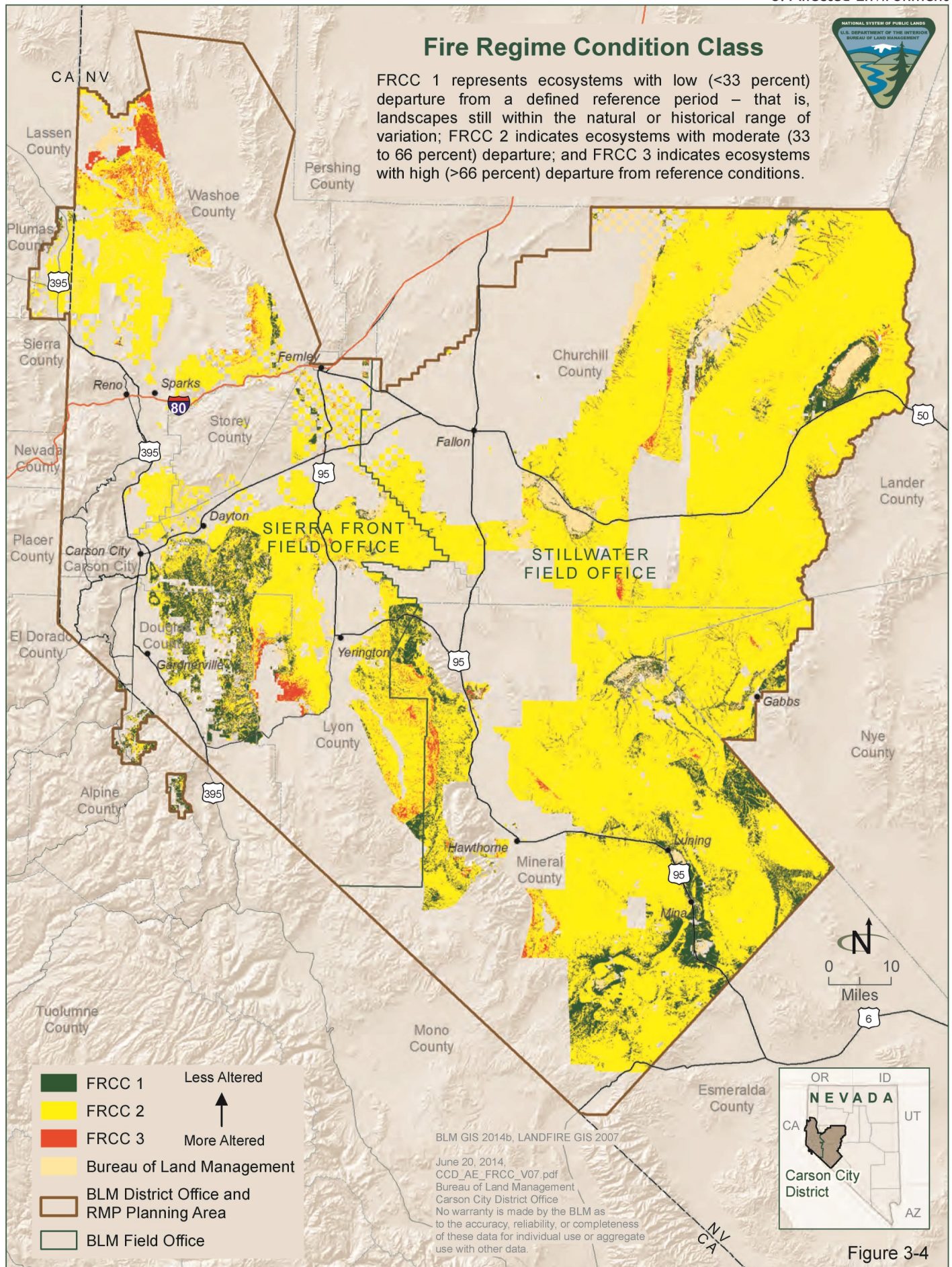
Table 3-17
Fire Management Units for the Carson City District

FMU Name	FMU Number	FMU Type	Planning Area Acreage
Fish Springs	FMU-NV-030-01	HVH	162,776
Reno/Sparks	FMU-NV-030-02	WUI	482,146
Mustang	FMU-NV-030-03	VEG	290,633
Carson River	FMU-NV-030-04	WUI	529,562
Alpine	FMU-NV-030-05	WUI	29,271
Slinkard	FMU-NV-030-06	WSA	11,038
Como	FMU-NV-030-07	CHP	257,753
Lyon Basin	FMU-NV-030-08	VEG	466,821
Lahontan Basin	FMU-NV-030-09	VEG	1,019,955
Wassuk Range	FMU-NV-030-10	HVH	117,338
Churchill Ranges	FMU-NV-030-11	HVH	796,828
Churchill Basin	FMU-NV-030-12	VEG	688,195
Mineral Basin	FMU-NV-030-13	VEG	1,299,061
Gabbs Valley Range	FMU-NV-030-14	HVH	261,223
Excelsior Mountains	FMU-NV-030-15	HVH	92,924

FRCC 1. Fire regimes are within a historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within a historical range. Where appropriate, these areas can be maintained within the historical fire regime by treatments such as managing fire for resource benefit. Approximately 391,300 acres (8 percent) of BLM-administered lands in the planning area are managed as FRCC 1.

FRCC 2. Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range. Where appropriate, these areas may need moderate levels of restoration treatments, such as fire use and hand or mechanical treatments, to be restored to the historical fire regime. Approximately 4,042,200 acres (84 percent) of BLM-administered lands in the planning area are managed as FRCC 2.

FRCC 3. Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals, resulting in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range. Where appropriate, these areas may need high levels of restoration treatments, such as hand or mechanical treatments, before fire can be used to restore the historical fire regime. Approximately 95,200 acres (2 percent) of BLM-administered lands in the planning area are managed as FRCC 3.



Current Conditions

Wildland fires occur throughout the CCD, with the fire season generally lasting from May until October (**Figure 3-5**, Fire History). Based on fire occurrence data collected from 1980 to 2013 (**Table 3-18**, BLM Carson City District Fire Occurrence Summary, 1980-2013), on average less than 1 percent of the CCD is affected by wildfire each year.

Table 3-18
BLM Carson City District Fire Occurrence Summary, 1980-2013

Year	Number of Fires	BLM Acres	Control Acres*
1980	51	73	384
1981	51	3,677	12,436
1982	49	49	66
1983	117	28,135	46,522
1984	184	46,758	77,579
1985	158	52,398	105,567
1986	155	4,459	5,800
1987	171	305	371
1988	159	4,636	6,013
1989	29	103	103
1990	113	471	651
1991	74	60	82
1992	100	1,217	1,425
1993	42	612	624
1994	67	16,076	19,543
1995	56	376	826
1996	130	12,787	15,847
1997	89	1,045	1,321
1998	56	393	12,152
1999	135	139,485	170,228
2000	154	70,133	82,789
2001	105	19,534	31,687
2002	125	3,512	3,897
2003	88	1,749	2302
2004	114	2,269	3,519
2005	82	2,176	2,869
2006	91	23,649	28,064
2007	153	18,446	37,597
2008	51	5,198	6,364
2009	89	22,707	25,178
2010	53	1,557	2,920
2011	124	6,953	13,675
2012	100	31,644	39,652
2013	69	23,550	30,993
Average	99	16,064	23,207
Min	29 (1989)	49 (1982)	66 (1982)
Max	184 (1984)	139,485 (1999)	170,228 (1999)

*Control Acres represents total acreage burned regardless of ownership
BLM WFMI, Type 1 & 2 Fires, BLM Action & BLM Natural Out, as of 01.01.14 (BLM, 2011a)

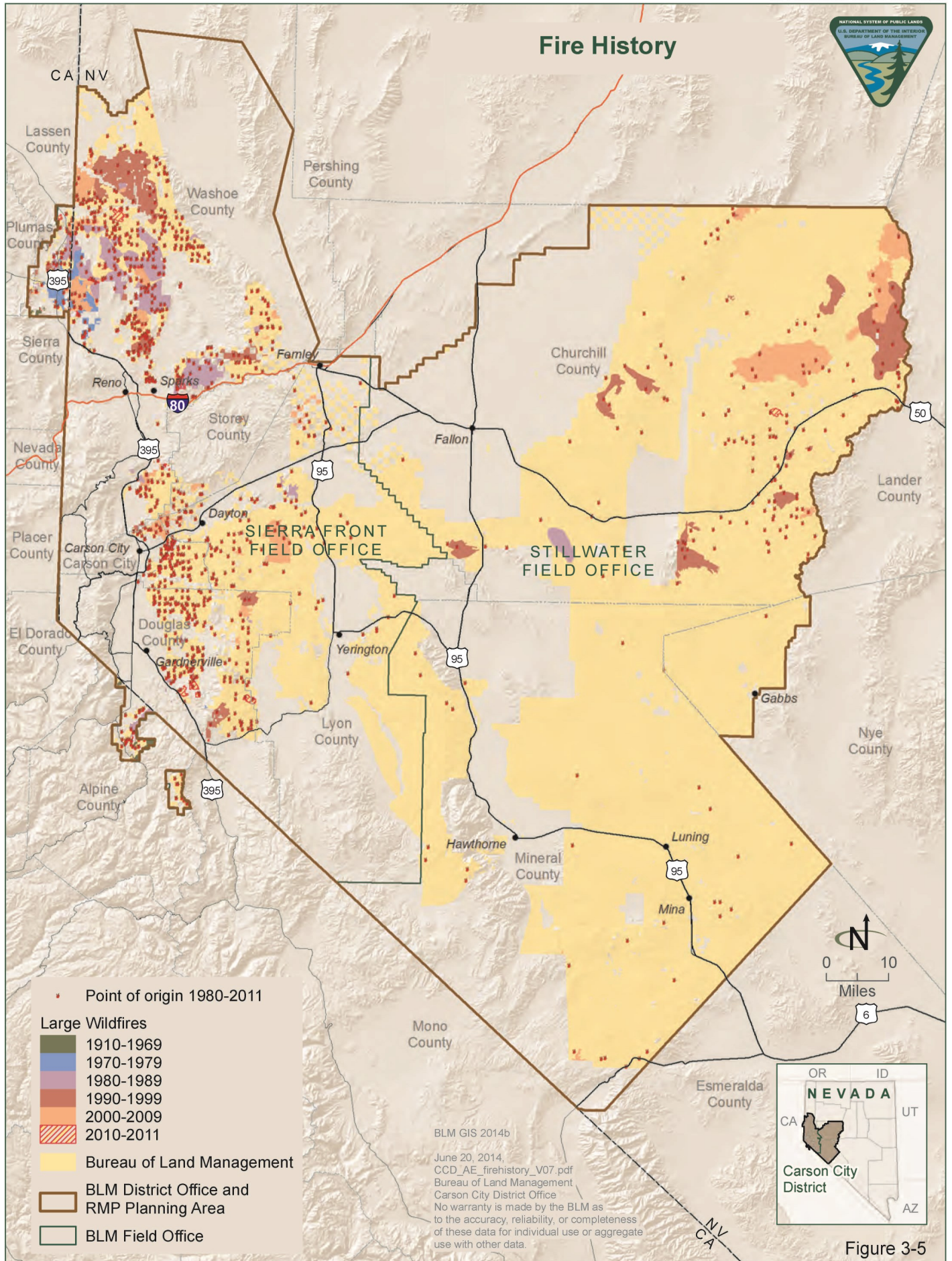


Figure 3-5

Prevention Program

The primary goal of the Carson City District Prevention Program is to eliminate all human-caused fires in the planning area. The fire prevention program is designed to educate the public and other users of BLM-administered lands on wildland fire prevention in order to reasonably reduce the threat of human-caused fires. Fire prevention and community education outreach is primarily promoted through activities at various community events and school programs.

Fuels Program

The fuels program strategy utilizes both nonfire treatments and prescribed fire to modify vegetation communities to create fire safe communities, protect private property, achieve resource management objectives, and restore ecosystem health. **Figure 3-6**, Emergency Stabilization and Rehabilitation and Fuels Treatment, displays the location of fuels and emergency stabilization and rehabilitation treatments.

Emergency Stabilization and Rehabilitation Program

The emergency stabilization and rehabilitation program mitigates adverse effects resulting from wildfire. Concerns taken into consideration when assessing stabilization needs include the proximity to urban areas and potential for erosion. Elevation and precipitation play major roles in the success of a rehabilitation treatment. Rehabilitation efforts are decided on a case-by-case basis, depending on the importance of the habitat or severity of burn.

Trends

Management trends for the wildland fire ecology program are expected to be influenced by three primary factors: the expanding WUI, the spread of invasive plants, and conifer expansion.

Wildland Urban Interface

The WUI has been increasing dramatically throughout the planning area over the past two decades. Development slowed during the economic downturn beginning in 2008, but WUI expansion is expected to increase over the life of the RMP. In addition to residential, commercial, and industrial development adjacent to BLM-administered lands, the WUI also includes power lines, pipelines, communication sites, recreation facilities, renewable energy, and military training areas. The CCD fuel management budget is being used to plan and implement fuels treatments within the WUI, with the objective of reducing risk to these values. Many of the intensive and costly fire suppression actions occur within and adjacent to the expanding WUI.

Invasive Plants

Exotic species are a growing concern for fire management, especially invasive annuals. The most significant, widespread, and persistent threat is the invasion of cheatgrass (*Bromus tectorum*) in disturbed areas. Cheatgrass cures earlier in the season than native perennial vegetation, resulting in a longer fire season and

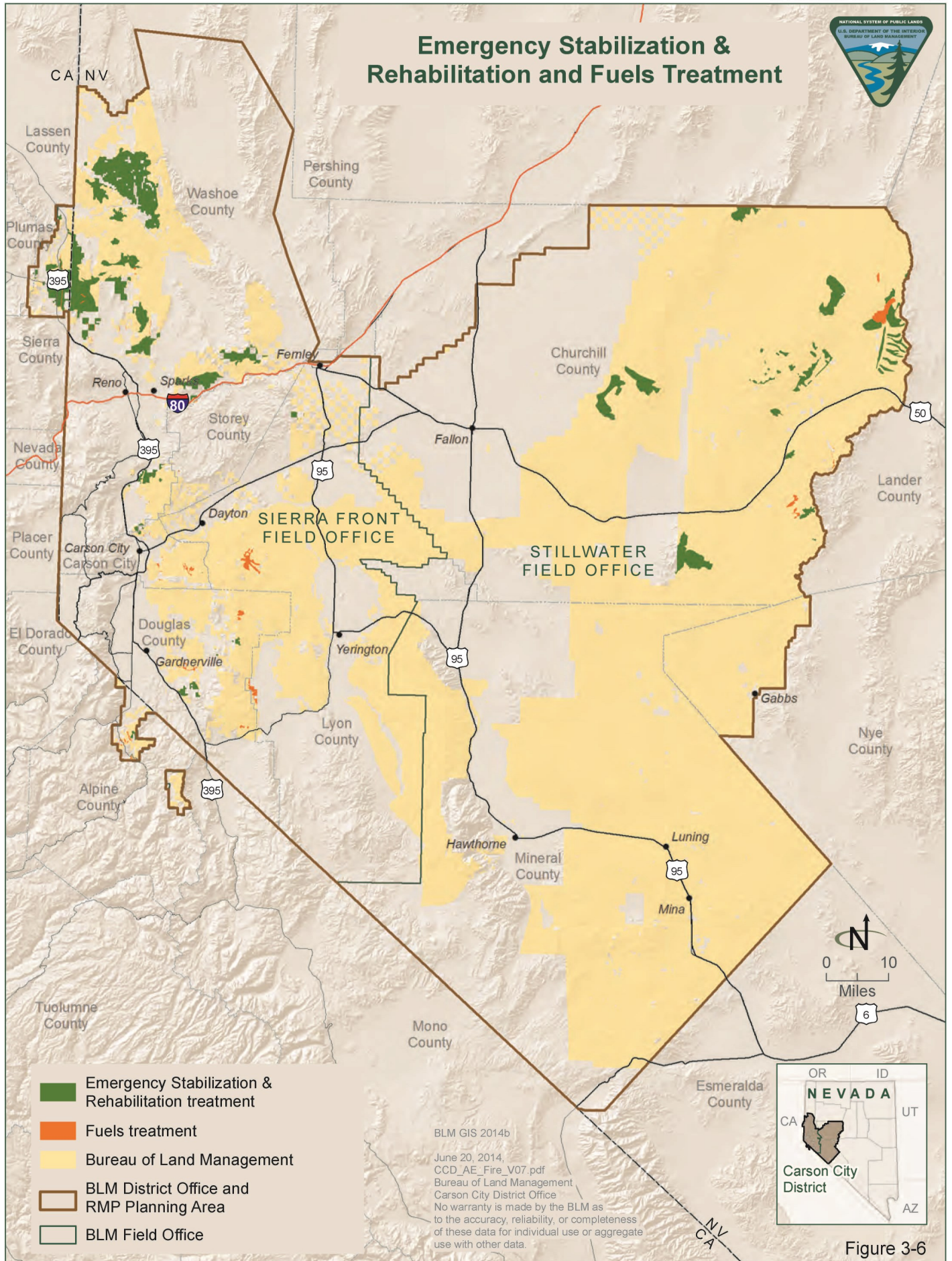


Figure 3-6

increased fire frequency and wildland fire management costs. See **Section 3.2.4, Vegetation**, for a detailed discussion of cheatgrass in the planning area.

Because most fire management activities are either surface- or vegetation-disturbing, they can result in increased susceptibility to exotic species that readily reestablish disturbed areas. Exotic species invasions, as well as mitigation measures that must be followed in order to reduce, or if possible, eliminate the risk they present, are carefully considered in planning for mechanical and prescribed burn treatments. Rehabilitation of the impacts from large wildfires is primarily aimed at quickly reestablishing native or nonnative vegetation that can compete with invasive species. Regular monitoring of treatments, as well as treating exotic species in and near treatments, is the key to maintaining healthy landscapes.

Conifer Expansion

Fire suppression policies generally lengthen fire return intervals in conifer-dominated habitats, allowing for increased cover densities. In some areas of the sagebrush biome, pinyon pine (*Pinus monophylla*) and juniper (*Juniperus* spp.) once existed as open, savannah-like woodlands that were maintained by relatively frequent fires. Since the 1880s, fire suppression has increased the stand density and distribution of conifer woodlands in many areas. As conifers expand into sagebrush communities, contiguous sagebrush stands are reduced in size and the diversity of grasses and forbs decreases.

Forecast

As the WUI expands, exotic species increase and invade new areas, and conifers expand, the cost and complexity of managing wildland fire and fuels within the planning area will continue to increase.

3.2.9 Cultural Resources

The term cultural resource refers to prehistoric, historic, or architectural objects, sites, structures, or places with potential public and scientific value, including locations of traditional cultural, ethnic, or religious significance to a specific social or cultural group. Cultural resources are located, classified, and managed through a system of identifying, protecting, and utilizing them for public benefit. Fragile and irreplaceable, cultural resources represent an integral part of American heritage. Cultural resources have a definite location of human activity, occupation, or use identified through field inventories, historical documentation, or oral evidence BLM Manual 8110 (BLM 2004b). Archaeological resources are a subset of cultural resources that include any material remains of human life or activities that are at least 50 years old, and are of archaeological interest (as defined in 43 CFR Part 7.3). Native American religious concerns, a critical element noted in Appendix 5 of the BLM NEPA handbook, are addressed in **Section 3.5.1, Tribal Interests**.

Prehistoric or historic cultural resource sites, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP or National

Register) are managed as directed by 36 CFR Part 800, Protection of Historic and Cultural Properties. These regulations stipulate that cultural resources must be assessed for integrity of location, design, setting, materials, workmanship, feeling, and association. A property may be considered eligible for listing on the National Register if it retains sufficient integrity of these elements and meets certain criteria outlined in National Register Bulletin 15 (National Park Service 1997). As listed in 36 CFR Part 60, historic properties (including prehistoric and historic archaeological sites and places considered important to Native Americans) must meet a specific set of criteria:

- The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:
 - Are associated with events that have made a significant contribution to the broad patterns of our history
 - Are associated with the lives of persons significant in our past
 - Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
 - Have yielded, or may be likely to yield, information important in prehistory or history

The planning area contains archaeological evidence of habitation and use for at least the past 13,000 years. For most of this vast period of time, the ancestors of today's Native American tribes occupied the area that comprises the planning area. Only within the last 170 years have other cultures come to use this landscape, often in great numbers and for a variety of reasons. Whereas less than 10,000 people lived in the planning area in 1800, today's population totals more than 600,000. Throughout time, the range of human activities has been bound by the constraints of climate, weather, geology, hydrology, landform, and the plants and animals that adapt to the local conditions.

Prehistoric Period Cultural Resources

In very general terms, the Native Americans that lived in the planning area prior to the mid-1800s focused upon this expansive landscape to meet their economic and cultural needs. The margins of marshes, rivers, lakes, and springs provided much of the necessary plants and animals used for food, medicine, clothing, toys, and shelter. Uplands, away from water, were sparsely used for gathering toolstone and certain plants and animals. Anthropologists use the term "hunter/gatherer" to describe the subsistence practices of local peoples. Settlements were often temporary in order to take advantage of changes during

the seasons, and to avoid harsh winter snow and cold in the mountains, as well as the summer heat and lack of water in much of the lowlands. In anthropological terms, the native people of the region were generally nomadic within an annual cycle, but when conditions allowed, long-term camps were established.

Archaeological sites, evidence of prehistoric use of the planning area landscape, vary widely in complexity, type, environmental setting, and location. In addition to the vast depth of time represented by these resources, a wide range of behaviors are also indicated, including hunting, gathering, tool manufacture, trade and exchange, and spirituality. Site types include rock shelters, residential sites (often with buried, well-preserved remains), temporary camps, petroglyphs and pictographs, hunting blinds and fences, toolstone quarry sites, and scatters of stone tool-making debris. The BLM administers many important archaeological sites that have helped develop and continue to inform Great Basin archaeology.

Historic Period Cultural Resources

Historic period sites indicate a considerable amount of variation reflective of the activities and resources that attracted people to the region. Mining and mining-related sites; transportation trails and roads; ranches and ranching-related facilities; and towns are all represented within the area managed by the BLM.

Mining

The earliest known prospecting by Euro-Americans in the region was in 1849. Mormon settlers headed for California found placer gold at the mouth of Gold Canyon, along the present-day boundary of Lyon and Storey Counties. Gold was placer-mined in the Gold Canyon vicinity until the late 1850s when the blue-black clayey material clogging up the placer works was found to have a high silver content, far exceeding the value of the gold being sought. This discovery of silver ore in Virginia City ushered in the Comstock Era (1859 to 1899), a period characterized by much prospecting and even more speculating. Those led to the rapid construction of many mines, mills, and mining towns and ongoing boom-and-bust cycles based on the value of precious metals. It was the boom, or rapid success and expansion, of mining one of those metals—silver—that funded the Union efforts during the Civil War and led to Nevada's official statehood in 1864. A silver bust, or collapse of that market, followed the passing of the 1873 Coinage Act, when America went to a gold standard.

Mining districts sprang up all over the region through World War II as prospectors sought gold, silver, copper, salt, borax, and other valuable minerals. These historic mining districts still contain remnants of past activities, including prospects, shafts, adits, mining equipment, small structures, and foundations.

Transportation

Transportation-related historic resources in the planning area include railroads, stage routes, the California Emigrant and Pony Express National Historic Trails,

toll roads, and more formal roads such as the Lincoln Highway. The first routes of Euroamerican explorers often followed existing trails created and used by Native Americans. Early emigrants such as the Bidwell-Bartleson party in 1841, Joseph Walker's party in 1842, and the Stevens party in 1844 merely passed through: California was the destination.

The planning area retains evidence of historic transportation corridors for the various California National Historic Trail segments as well as later routes in the visible form of trail berms, ruts, and swales; railroad grades, culverts, cuts, and retaining walls; paved and unpaved road segments; ruins of associated buildings; and debris left by work camps, emigrants, and travelers.

Eventually, the local resources required freight and ore transport by horse, ox, and mule-drawn wagons, often travelling on privately owned toll roads of varying design and construction. Active regional routes include the Esmeralda Toll Road, built in 1861 and running south from Carson City to Aurora; the Wadsworth-Columbus Freighting Route, established in 1863 and operating until rendered obsolete by the railroad in 1882; the 1878 Aurora-Manhattan Toll Road; and the 1881 Hawthorne and Bodie Toll Road.

Often backed by wealthy investors, railroads quickly out-competed freight wagons with cheaper shipping rates for ore and supplies; the Central Pacific Railroad arrived in Reno on May 9, 1868. By February of the next year, construction began for the Virginia & Truckee Railroad to service the booming Comstock mines. Construction of other railroads followed, such as the Nevada-California-Oregon Railroad that began in Reno in 1880 and was replaced by the Western Pacific Railroad in 1918.

With increasing automobile use in the 20th century came a need for better roads. The Lincoln Highway, the first US transcontinental highway, was completed through Reno in 1927, signaling a national trend toward automobile use and the eventual creation of a national interstate system with passage of the Federal Aid Highway Act of 1956 during the Eisenhower presidency. Today, US 50 through the CCD closely follows the route of the Lincoln Highway.

Communication

One of the challenges of the Euro-American settlement of the west was the difficulty in communicating over long distances. Mail service from the eastern US took weeks or months, and faster methods were sought. Beginning in March of 1860, a new high-speed "Pony Express" mail service ran from St. Joseph, Missouri through Salt Lake City, across Nevada, and on to Sacramento, California. The route bisects the planning area. The Pony Express mail service was discontinued in October 1861, which coincided with completion of the transcontinental telegraph. Although active for only a short period of time in 1860 and 1861, the Pony Express remains emblematic of early settlement of the West. Remnants of the Pony Express National Historic Trail corridor in the

planning area are limited to the structures and artifact assemblages at stations, including those at Cold Springs and Sand Springs.

As telegraph and later telephone lines developed, mail transferred into a regular stagecoach, railroad, or road service. These communication corridors often followed and took advantage of routes and structures established by explorers and the Pony Express. One important World War II-era telephone line spans the planning area, and by 1942 it linked the large military and intelligence bases of Herlong, Stead, Hawthorne, and Las Vegas. Remains of telegraph and early telephone system buildings, poles, insulators, and wire lines are found throughout the planning area.

Ranching/Homesteading/Agriculture/Logging

Although several Alpine County sawmills and settlement at Mormon Station (Genoa) and Eagle Station (Carson City) pre-date the early 1850s, permanent settlements, farms, logging camps, and ranches boomed when mining successes in the Comstock and other districts created a growing market for meat, produce, mine timbers, and firewood. New settlers planted fields of grain and orchards in Eagle and Carson Valleys. Loggers denuded the Carson, Virginia, and Pine Nut ranges. Enterprising ranchers from California brought in sheep and cattle to meet the growing demand. One of the largest ranching operations in the area was run by N. H. A. “Hoc” Mason under the direction of Henry Miller of the Miller and Lux cattle empire. In 1859, Mason settled in the Lyon County valley that bears his name, and soon the Miller and Lux cattle ranges included lands as far away as Oregon. Other early ranchers included J. J. Cushman and David Wightman, who settled on the south branch of the Carson River around 1860, near the future town of Fallon.

Homesteaders followed the development of these ranches and the decline of mining. Some tried to farm lowlands, and others were agents for large ranching operations. Their traces remain as wood and stone houses, dugouts, foundations, irrigation systems, and fences scattered throughout the planning area. Some of these are still in use by modern ranching operations.

Nineteenth century agriculture was generally practiced on a small scale, with natural-flow water rights irrigating fields in the valleys of the Carson, Walker, and Truckee Rivers. The scale of development changed with the National Reclamation Act of 1902 that authorized the recently established Bureau of Reclamation to initiate large irrigation projects in 17 western states. The first was the Newlands Project, conceived as a development that transferred water from the Truckee River watershed to that of the Carson River. By the 1910s, the project included the Lahontan Dam, three diversion dams, two hydroelectric plants, and a dam at Lake Tahoe. The project also entailed construction of about 900 miles of canals, laterals, and drains. This massive public works project altered the settlement pattern of both river basins,

changing thousands of desert shrublands near Fallon into irrigated agriculture, and by 1962 turning the Winnemucca (Lake) National Wildlife Refuge dry.

Historic-Era Native Americans

Following the arrival of nonnative settlers in the region, Native Americans continued to hunt game, to gather plants for food and medicine, and to participate in the activities of their cultural and spiritual lives. However, mining, logging, ranching, farming, and commercial hunting and fishing increased the water used, cleared pinyon trees from the mountain ranges, and reduced the availability of wild game. Reduction of these resources and the establishment of private land made traditional subsistence difficult as the resource base was depleted or destroyed, or access was denied.

Native Americans adapted to these changes in many ways, including participation in the settlers' economy and maintaining sovereign governments and socioeconomic patterns on established reservations and colonies. The timing of the creation of tribal reservations and colonies varies throughout the region, with some reservations established by the federal government in the late 1800s for specific tribal groups. In most cases, the original area of reservations has been altered. The Reno-Sparks Indian Colony is unique in that it was established for urban-based Native Americans with a variety of tribal affiliations in addition to local tribes. For several tribes, land ownership and acquisition of reservation or trust lands remain ongoing issues that are at least partially unresolved relative to current needs.

The planning area lies within the traditional territory of Northern Paiute, Washoe, and Western Shoshone peoples. Although tribal people have been assimilating into a generalized modern American culture for decades, they maintain many of the traditions that defined their culture prior to the twentieth century. The 10 federally recognized tribal governments that have traditional, spiritual, and economic interests within the planning area are detailed in **Section 3.5.1, Tribal Interests**.

Current Conditions

Cultural Properties

Most of the recorded cultural resources on the BLM-administered land are archaeological sites. Less than 500,000 acres, or about 10 percent, of the BLM-administered land have been inventoried for cultural resources, although many older inventories do not meet modern Class III inventory standards. Cultural resources surveys have led to the documentation of approximately 9,000 prehistoric and historic archaeological sites. Only a few sites have been formally nominated for listing on the National Register, but many more have met the eligibility criteria or have not been evaluated for inclusion in the National Register. **Table 3-19, Properties Listed on the National Register of Historic Places in the Planning Area**, lists the resources that have been formally listed.

Table 3-19
Properties Listed on the National Register of Historic Places in the Planning Area

Listed on the National Register	General Location	County	Listed As:	Date Listed	Relationship to CCD
Cold Springs (Rock Creek Station)	51 miles west of Austin on US 50	Churchill	Site	02/23/72	In CCD
Cold Springs Pony Express Station	Frenchman vicinity	Churchill	Site	05/16/78	In CCD
Grimes Point	Fallon vicinity	Churchill	Site	02/23/72	In CCD
Sand Springs Pony Express Station	Fallon vicinity	Churchill	Site	11/21/80	In CCD
Lahontan Dam and Power Station	Southwest of Fallon	Churchill	Part of Newlands Rec. TR	03/25/81	In planning area (on Nevada state land)
East Walker River Petroglyphs	Yerington vicinity	Lyon	Site	07/24/80	In CCD
Virginia City Historic District	Virginia City and its environs	Storey/ Washoe/ Carson City/ Lyon	District	10/15/66	Partially in CCD
Marlette Lake Water System	Marlette Lake to Virginia City	Washoe/ Carson City/ Storey	District	09/16/92	Partially in CCD
Old Winters Ranch/Winters Mansion	US 395 north end of Washoe Valley	Washoe	Building	07/30/74	Adjacent to CCD
Fort Churchill	South of Silver Springs	Lyon	Site	10/15/66	Adjacent to CCD
Buckland Station	South of Silver Springs	Lyon	Site	12/29/97	Adjacent to CCD
Fort Churchill to Sand Springs Toll Road	Fallon vicinity	Churchill	Site	11/24/97	In CCD

Western Great Basin cultural resource sites are often exposed on eroded soils and geology that lack dense vegetation. Accretion of sediment is generally slow. Areas of exception, such as the floodplains of the perennial drainages and of the Truckee, Walker, and Carson Rivers, are not typically BLM-administered lands, but privately or tribally held. Therefore, as a result of desert climate conditions throughout the period of human use, prehistoric- and historic-era sites are typically visible on the surface. Because of their visibility, the distribution of known sites can be accurately gauged. Known site numbers, densities, and periods of use vary for historic-era and prehistoric sites, and the sites are unevenly distributed across the landscape.

Some regions are dominated by historical sites with remains that include collapsing buildings, structures, equipment, and other artifacts, and features that are visible on or above the present ground surface. These sites occur at and around the historic mines that are throughout the planning area. Between the initial boom of mining in the 1860s to the advent of automobiles, settlement generally occupied locations adjacent to the search for ore. Supporting towns, ranches, and agriculture followed a pattern that left cultural resource remains in specific valley landscapes and corridors. Therefore, the vast majority of historic-era sites and historic properties are in and around areas of modern or abandoned towns, mines, and ranches.

Additionally, development and resource use of BLM-administered lands continues to be driven by the relative location of recent human activities. These areas of mines, grazing allotment improvements, military use, and resource use of BLM-administered lands continue to be driven by the relative location of recent human activities and access. The areas tend to occupy specific positions on the landscape and do not occur evenly across the entire planning area. With cultural resources laws, regulations, and policies often requiring inventory prior to these actions being approved, looking for cultural resources in these areas will result in more sites being identified.

Cultural resources in the planning area can be adversely affected by two broad categories of agents of change: those that are caused by people, and those that are caused by nature. Examples of agents of change caused by people include actions permitted or authorized by the BLM such as mining, recreation, or energy development, as well as activities that are related to emergency fire suppression, casual use, or actions not authorized by the BLM such as illegal dumping. Examples of agents that are caused by nature include wildland fires (regardless of origin), river/stream and hillside erosion, inadvertent wildlife disturbance (such as burrowing rodents), and natural weathering.

Heritage Properties

Per the Carson City Consolidated RMP, the BLM has identified areas of significant heritage properties for protection, enhancement, complimentary use, and public enjoyment and designated high-value areas for special management action based upon criteria outlined in the resource protection planning process reports and cultural resource management guide for the resource area. **Table 3-20, Heritage Areas Identified for Management in the Planning Area**, identifies these resources in the planning area.

Table 3-20
Heritage Areas Identified for Management in the Planning Area

Site Name	County	Acres/ Miles	Interpretive Services in Place	Environmental Education/ Scientific Research	Description
Grimes Point Archaeological Area	Churchill	1,160 acres	Designated parking area, kiosk, trail system, other signage, restrooms, and picnic tables	Guided tours/rock art research by agreement with Nevada Rock Art Foundation	Grimes Point Petroglyph Site is listed on the NRHP in 1972 and managed by BLM as a recreation site with public facilities, trails, and passive interpretation. Grimes Point Archaeological Area is managed under a 1976 Memorandum of Agreement with Reclamation, with BLM designated as Lead Agency (560 acres Reclamation; 600 acres BLM).
Hidden Cave Interpretive Site	Churchill	(within Grimes Point Area)	Designated parking area, kiosk, trail system, restroom	Guided tours by BLM staff and by agreement with Churchill County Museum docents	Hidden Cave is an open archaeological excavation on BLM-administered lands within the Grimes Point Archaeological Area. The cave site is locked and actively interpreted for the public by BLM and Churchill County Museum voluntary tour guides under a Cooperative Management Agreement (July 30, 2003).
Sand Springs Pony Express Station	Churchill	40 acres	Designated parking area, kiosk, trail system	None	The Sand Springs and Cold Springs Pony Express Stations have been excavated, stabilized, and developed as public interpretive sites. Included are self-guided interpretive trails and informational signs.
Cold Springs Pony Express Station	Churchill	80 acres	Designated parking area, kiosk, trail system, restroom	None	
Rock Creek Stage and Telegraph Site	Churchill	80 acres	Designated parking area	None	The Rock Creek Stage and Telegraph Site are fenced. A few hundred yards to the west is a paved pullout and state historic marker, erected in 2011, describing the sites.
Pah Rah High Basin (Dry Lakes) Petroglyph Area (ACEC)	Washoe	3,881 acres	None-high potential for interpretation	Rock art research by agreement with Nevada Rock Art Foundation	The Pah Rah High Basin (Dry Lakes) Petroglyph Area is designated as an ACEC in the 2001 Final Southern Washoe County Urban Interface Plan Amendment.

Table 3-20
Heritage Areas Identified for Management in the Planning Area

Site Name	County	Acres/ Miles	Interpretive Services in Place	Environmental Education/ Scientific Research	Description
Virginia City National Historic Landmark	Storey/ Washoe/ Carson City/ Lyon	ca. 16,000 acres	By county/private entities within Virginia City townsite	Commercial tours only/ no BLM programs (lands approximately 70 percent public)	Virginia City National Historic Landmark was originally listed in 1966, and is summarized by a 1978 NRHP inventory. The Virginia City Historic District (National Register District) includes the area of the National Historic Landmark and additional lands that are mostly nonfederal to the north, east, and, south of the National Historic Landmark. The National Register District was certified as official by the Nevada SHPO, Ronald M. James, on February 6, 1991.
Virginia City Historic District (National Register District)-includes all of the National Historic Landmark	Storey/ Washoe/ Carson City/ Lyon	ca. 33,000 acres	By county/private entities within Virginia City townsite	Commercial tours only/ no BLM programs (lands approximately 55 percent public)	
California Historic Trail	multiple	ca. 300 miles	Signage	None on CCD	There are no BLM interpretive sites on the portions of these trails within the planning area.
Pony Express National Historic Trail	Churchill/ Lyon/ Carson City/ Douglas	ca. 130 miles	Signage	None on CCD	
Lahontan Dam and Power Station and Carson River Diversion Dam					Lahontan Dam and Power Station and Carson River Diversion Dam are listed in the Consolidated RMP, but are on lands acquired by Reclamation and managed by the State of Nevada.

Resource Changes

Trends

The desired condition of cultural resources on federal lands is that they remain stabilized and not adversely affected by natural and cultural processes, and that they are used towards increased educational and interpretive use. As reviewed above, the current trend of the properties (NRHP-eligible or listed sites) in the planning area is that those near the urban interface are subject to greater potential for damage, removal, or alteration from agents caused by people and their equipment. Those resources farther from urban or developed areas are relatively stabilized and are not, in large measure, being adversely affected.

Based on historic trends, large-scale and intense wildland fires can and will occur in western Nevada. Such fires, if they sweep through specific portions of the planning area, such as the Virginia City National Historic Landmark, would have a severe effect on the significant cultural resources of that area. Interest in

mining gold and other minerals has gone up in recent years on both private and BLM-administered lands, as the value of these commodities has increased. Current federal law and BLM management, regulations, and policies permit mining wherever it is legally allowable and where it does not adversely affect critical resources. As a result, more mining on BLM-administered lands is occurring relative to only a few years ago when commodity prices were much lower. Whether this recent upsurge in mining activity is normal, or whether it forecasts the beginning of a larger trend, is not currently known.

Qualitative observation indicates a downward trend in condition for recorded and unrecorded cultural resources that are not associated with formal surface disturbing management proposals. Illegal removal of artifacts, ground disturbance associated with recreational activity, limited law enforcement, and intensive grazing practices all contribute to the downward trend.

Forecast

Based on current management practices, improved access to BLM-administered lands, and increased urbanization, the forecast would be to continue this downward trend of cultural resource conditions due to the following factors:

- Greater potential for cultural resources being illegally removed or damaged, due to increases in recreational and commercial usage, and limited law enforcement presence,
- A likelihood for continued large-scale wildfires in the planning area resulting in damage;
- Continued activities that result in damage or destruction of cultural resources on private, state, and non-BLM-administered lands; and
- Continued permitting of authorized actions by BLM including mining, grazing, and geothermal development that contributes to sites and artifacts being affected.

3.2.10 Paleontological Resources

Fossils are the remains, traces, or imprints of ancient organisms preserved in or on the earth's crust that provide information about the history of life on earth. Paleontological resources do not include any materials associated with archeological resources, which consist of material remains of past human life or activities that are over 100 years old (as defined in Section 3(1) of the Archeological Resources Protection Act of 1979, as amended (16 USC 470bb[1])).

Paleontological resources are a fragile and nonrenewable scientific record of the history of life on earth. BLM policy is to manage paleontological resources for scientific, educational, and recreational values and to protect or mitigate these resources from adverse impacts. The BLM also manages paleontological resources in keeping with the Paleontological Resources Act of 2009 (Public

Law 111-011). To accomplish this goal, paleontological resources must be professionally identified and evaluated, and paleontological data should be considered as early as possible in the decision-making process. The BLM's four objectives for the management of fossil resources on BLM-administered lands are: 1) locating, evaluating, managing, and protecting fossil resources; 2) facilitating appropriate scientific, educational, and recreational uses of fossils; 3) ensuring that proposed land uses do not inadvertently damage or destroy important fossil resources; and 4) fostering public awareness of the Nation's rich paleontological heritage (BLM 1998a; BLM 1998b). The BLM considers vertebrate fossils, as a group, to be scientifically significant; invertebrate and plant fossils may be determined to be significant on a case-by-case basis. Petrified wood is treated as a mineral material and may be collected or purchased under the Material Sales Act of 1947 (as amended), but cannot be obtained under the General Mining Law of 1872.

Paleontological resources are managed according to the BLM Handbook H-8270-I, General Procedural Guidance for Paleontological Resource Management (BLM 1998a) and BLM Manual 8270, Paleontological Resources Management (BLM 1998b). BLM Instruction Manual 2008-009 (BLM 2007b), released October 15, 2007, updates the handbook to replace the tri-level classification system found in the 1998 handbook with the Potential Fossil Yield Classification system. The new classification system is meant to provide baseline guidance for predicting, assessing, and mitigating paleontological resources.

Current Conditions

Paleontological resources are known to occur throughout the planning area. Fossils are identified within the geological units in which they occur and are extensively distributed both vertically and horizontally.

In 1981, a district wide paleontological inventory was conducted to identify fossils and fossil-bearing sediment localities within and immediately adjacent to the CCD (Firby 1981). Based upon the inventory, 331 locations were identified comprising 225 vertebrates, 73 invertebrates, and 33 paleoflora fossils. Based upon the 1981 analysis, the paleontological timeframe ranges from the Triassic (approximately 230 million years before present) to the Quaternary/Rancho Labrean (1.5 million years before present) periods.

In the early 1980s paleontological inventories assisted BLM with consideration of the Stewart Valley Fossil Area for a proposed ACEC (Scudder 1986). The inventories confirmed the importance of the Stewart Valley area for future paleontological studies due to the diversity of fossils, and the Stewart Valley ACEC was officially designated in the BLM Walker Resource Management Plan (BLM 1986c). The BLM completed an ACEC Management Plan for the Stewart Valley Fossil Site in September 1990 (BLM 1990). The plan included 1,420 acres of mineral entry withdrawal (expired in 2010) for the most sensitive portion of the 16,000-acre ACEC.

Much like the Stewart Valley ACEC, the Pine Nut Range has been identified as an area of paleontological diversity and includes two specific areas, the Pine Nut Range Hemphillian/Early Blancan interface and the Ruhenstroth Paleontological Area. The Hemphillian/Early Blancan interface, dating to about 4.0 million years before present, is a specifically important resource. The dated sediments and fossils are used to correlate other fossil locations throughout North America (Lindsay, 2002). Although fossil-bearing sediments have been identified and some excavations have been conducted, the range of this area is not precisely mapped.

In the southwest area of the Pine Nut Range, large Pleistocene vertebrate faunal remains are primarily represented at Ruhenstroth. Due to continued pressure on resources from OHV use, the area was temporarily closed to OHV use (limited to designated routes) in 2008 under an emergency closure per Federal Register Notice (Volume 73, No. 20, p. 5584).

Table 3-21, Paleontological Areas Identified for Management, provides more information on the three paleontological resource areas described above. The locations of these areas are shown on **Figure 3-7**, Paleontological Areas Identified for Management.

Numerous additional localities of paleontological resources are known throughout the planning area. In the late 2000s, CCD personnel used the results of the 1981 inventory and created a GIS paleontological layer. This GIS layer identifies areas of sensitivity for known and unknown fossil locations throughout the planning area; this information is used during analysis for proposed projects. The analysis is used to recommend further paleontological inventories especially in areas of high sensitivity for vertebrates, such as a fossil locality at Ruhenstroth in the southern Pine Nut Mountains. The results of these inventories are used to continually update the paleontological GIS layer and the BLM's understanding of the deposition of paleontological resources within the planning area.

Table 3-21
Paleontological Areas Identified for Management

Site Name	County	Acres	Interpretive services in place	Environmental Education/ Scientific Research
Stewart Valley Fossil Site	Mineral	16,000 acres	Signage for travel management	Ongoing research and monitoring of sites
Pine Nut Range Hemphillian/Early Blancan interface	Douglas	3,000 acres	None	Of high scientific importance
Ruhenstroth Paleontological Area	Douglas	2,340 acres	Travel management signage and route designations	Ongoing research and monitoring of sites

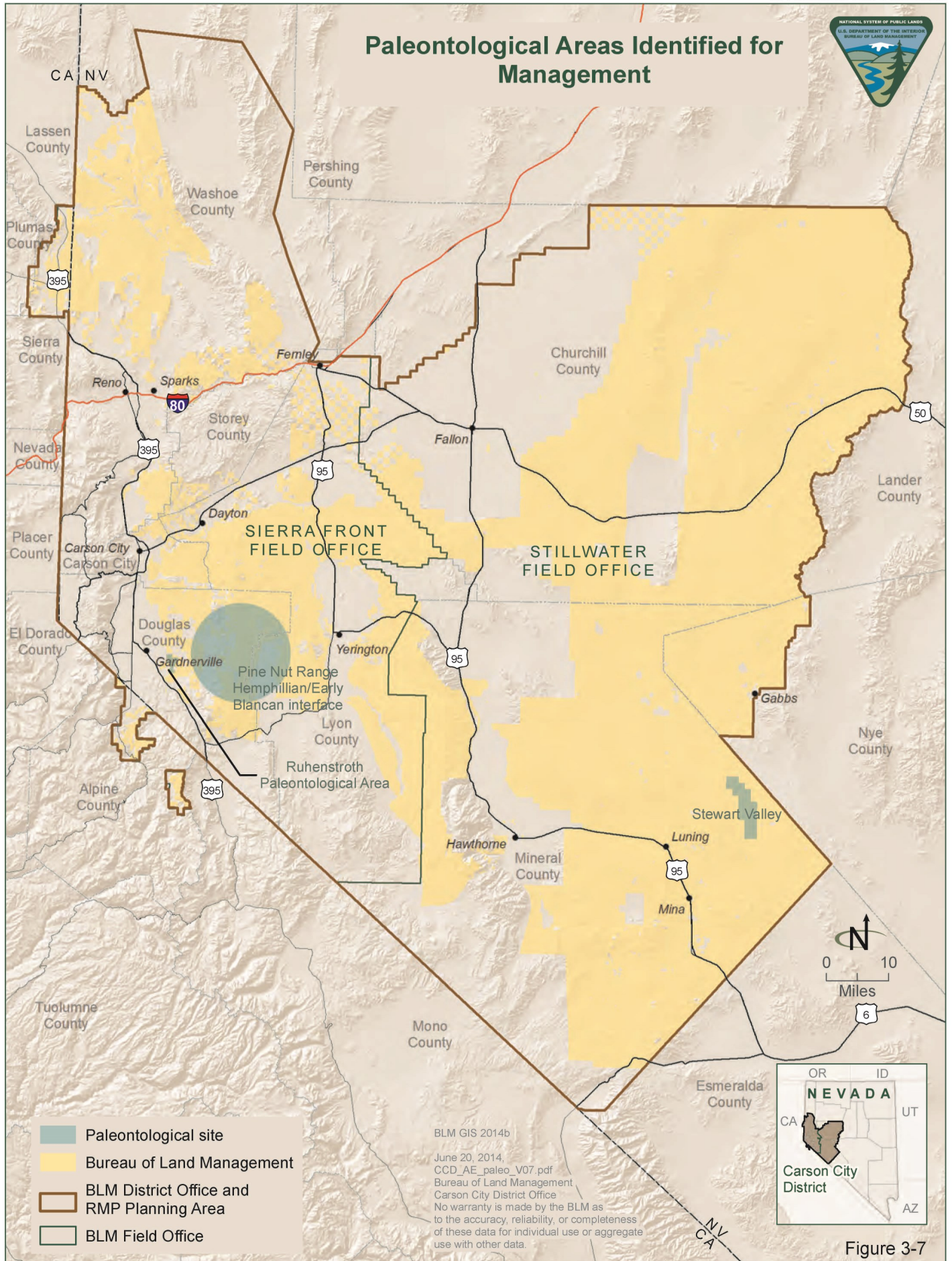


Figure 3-7

Resource Changes

The current management trend for the resources in the planning area is toward continued scientific research, additional monitoring and travel signage, and increased opportunities for environmental education and interpretive use. The proposed Ruhenstroth Paleontological Area is near the Douglas County Fairgrounds and at an urban interface. This is an area of increasing recreational use, resulting in greater erosion of fossil-bearing sediments and observed increase in the resource damage, removal, or alteration by people and their equipment. Resources farther from urban or developed areas are relatively stabilized and are not, in large measure, adversely affected by human activity. However, all areas of fossil-bearing sediments are trending toward increased recreational use and protection of paleontological resources are subject to the limits to the availability of resource staff and law enforcement monitoring.

Based on current management practices, improved access to BLM-administered lands, and increased urbanization, there is the potential for paleontological resources to be illegally removed or damaged in the future due to increases in recreational and commercial usage, and limited law enforcement presence.

3.2.11 Visual Resources

Visual resources refer to the visible features on a landscape (e.g., land, water, vegetation, animals, and structures). These features contribute to the scenic or visual quality and appeal of the landscape. Visual impact is the creation of an intrusion or perceptible contrast that affects the scenic quality of a landscape. A visual impact can be perceived by an individual or group as either positive or negative, depending on a variety of factors or conditions (e.g., personal experience, time of day, and weather or seasonal conditions; BLM 1984a).

Visual Resource Inventory

Visual resource inventory involves identifying the visual resources of an area and assigning them to inventory classes using the BLM's resource inventory process. The process involves rating the visual appeal of a tract of land, measuring public concern for scenic quality, and determining whether the tract of land is visible from travel routes or observation points. This process is described in detail in BLM Handbook H-8410-1, Visual Resource Inventory (BLM 1986a).

The results of the visual resource inventory become an important component of the RMP for the area. The RMP establishes how BLM-administered lands will be used and allocated for different purposes, and it is developed through public participation and collaboration. Visual values are considered throughout the RMP process, and the area's visual resources are then assigned to the management classes with established objectives.

Visual Resource Management

The objective of visual resource management (VRM) is to manage BLM-administered lands in a manner that will protect the quality of the scenic or visual values of those lands. Scenic values are identified through the visual

resource inventory process and are considered along with other resource values in the RMP process to establish VRM objectives. VRM objectives are established in conformance with land use allocations, are area specific, and provide visual standards for planning, designing, and evaluating proposed development projects or changes to the landscape. The VRM system also provides guidelines for timely evaluation of proposed surface-disturbing projects to ensure VRM objectives are met. The goal of VRM is to minimize the visual impacts of all surface-disturbing activities, regardless of the class to which an area is assigned.

The BLM categorizes visual resources into four distinctive classes that are based on scenic quality evaluations, sensitivity level analysis, manageability, and the delineation of distance zones. Proper implementation of VRM helps reduce visual degradation and maintain important visual resource values. Recreational opportunities as well as visitor experiences and benefits are heavily influenced by the scenic quality of the landscapes. Consideration for the public and nonfederal agency perception and concern for visual resources is also a critical element in the land use planning process.

Objectives for each of the four VRM classes are as follows:

Class I. The objective of this class is to *preserve* the existing character of the landscape. This class provides for natural ecological changes with very limited management activity. The level of change by the activity to the characteristic landscape should be very low and must not attract attention.

Class II. The objective of this class is to *retain* the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III. The objective of this class is to *partially retain* the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV. The objective of this class is to provide for management activities that require *major modification* of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

The analysis of a visual contrast rating process is used to resolve visual impacts. The process of a visual contrast rating, which involves comparing the project features with the existing landscape features using basic elements of form, line, color, and texture, is described in detail in BLM Handbook H-8431-I, Visual Resource Contrast Rating (BLM 1986b).

Current Conditions

The planning area falls within the Basin and Range Physiographic Province noted for its limited rainfall and arid conditions and the Sierra Nevada Physiographic Province along the eastern slopes of the Sierra Nevada Mountains. Topographic features in the planning area are representative of the basin and range and include a variety of landscapes such as the majestic snow-capped mountain ranges, low foothills, and wide flat basins. Scenic quality values are high and visual distance is usually great, hence the origin of the phrase “wide open Nevada.”

Visual Resource Inventory

A visual resource inventory of the planning area was completed in January 2012 according to guidelines in BLM Manual Handbook H-8410-I, Visual Resource Inventory (BLM 1986a). The inventory consisted of three components: scenic quality evaluation, sensitivity level analysis, and delineation of distance zones.

Based on the three inventory components, lands in the planning area were placed into one of four visual resource inventory classes (as shown in **Figure 3-8**, Visual Resource Inventory Classes). These class assignments are informational and provide the basis for considering visual values during the RMP process. They do not establish management direction and are not used as a basis for constraining or limiting surface-disturbing activities but are considered a baseline for existing conditions. Visual Resource Inventory Class I is assigned to those areas where a Congressional or administrative decision has been previously made to preserve the natural landscape character and is currently designated as VRM Class I. An example of a Congressional decision that is managed as VRM Class I designated wilderness.

The scenic quality, sensitivity, distance zone, and resulting visual resource inventory distribution for the CCD is presented in **Table 3-22**, Visual Resource Inventory Component Distribution, and in **Figure 3-9**, Visual Resource Sensitivity Levels; **Figure 3-10**, Visual Resource Quality Rating; and **Figure 3-11**, Visual Resource Distance Zones.

Visual Resource Management

The majority of the decision area does not have an assigned VRM classification. A partial VRM classification was completed in the mid-1980s, mostly in the areas of public interface and greater population densities on lands that now fall within the Sierra Front Field Office. Lands on the eastern side of the planning area were, for the most part, never assigned a VRM classification. Currently, standard

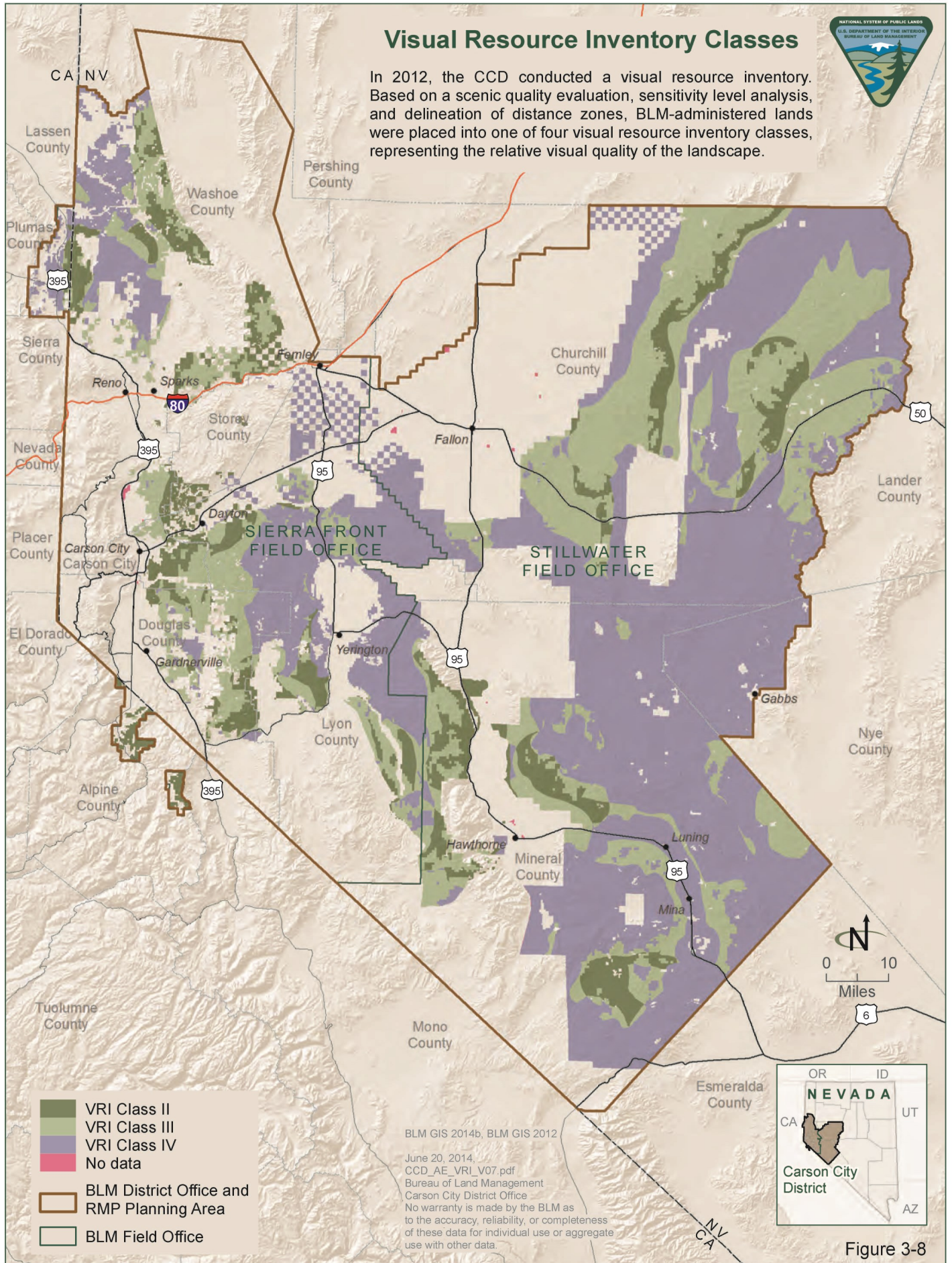


Figure 3-8

Table 3-22
Visual Resource Inventory Component Distribution

Visual Resource Inventory Component	Acres	Percent of Decision Area
Scenic Quality		
A	45,100	1%
B	1,911,100	40%
C	2,843,100	59%
No Data	5,300	<1%
Sensitivity		
High	2,472,300	51%
Moderate	1,679,600	35%
Low	647,300	14%
No Data	5,300	<1%
Distance Zone		
Foreground/Middle ground	2,101,100	44%
Background	598,000	12%
Seldom Seen	2,100,100	44%
No Data	5,300	<1%
VRI Class		
Class I	0	0%
Class II	509,500	11%
Class III	1,460,000	30%
Class IV	2,827,700	59%
No Data	3,900	<1%

Source: BLM GIS 2012a

operating procedures in the Consolidated RMP call for the establishment of interim VRM objectives where a project is proposed and where there are no approved VRM objectives.

Current VRM classes are summarized in **Table 3-23**, Visual Resource Management Classes, and displayed in **Figure 2-14**, Alternative A: Visual Resource Management Classes.

Table 3-23
Visual Resource Management Classes

VRM Class	Acres
Class I	564,100
Class II	38,300
Class III	320,600
Class IV	385,700
Undesignated	3,494,900

Source: BLM GIS 2012a

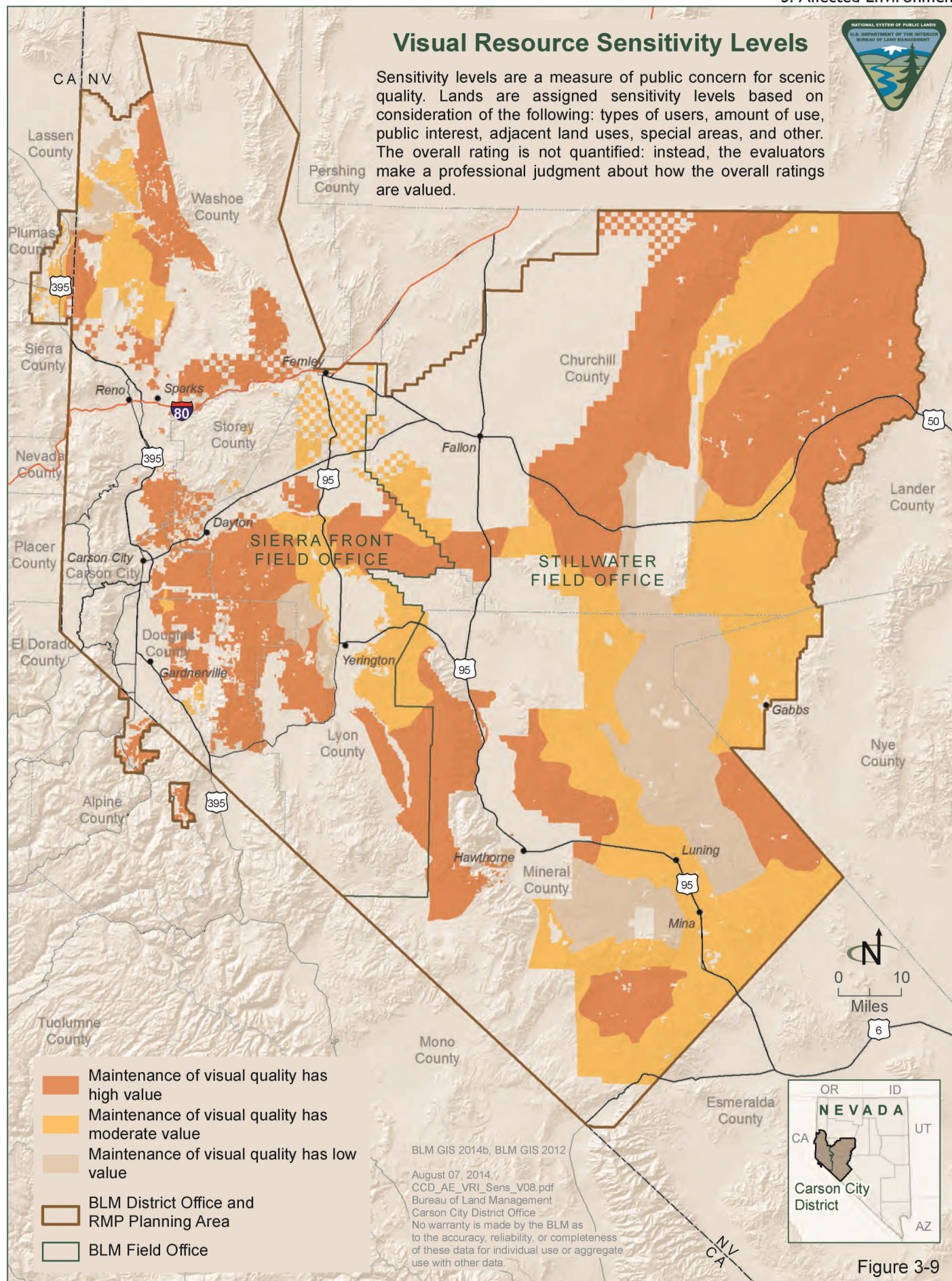


Figure 3-9

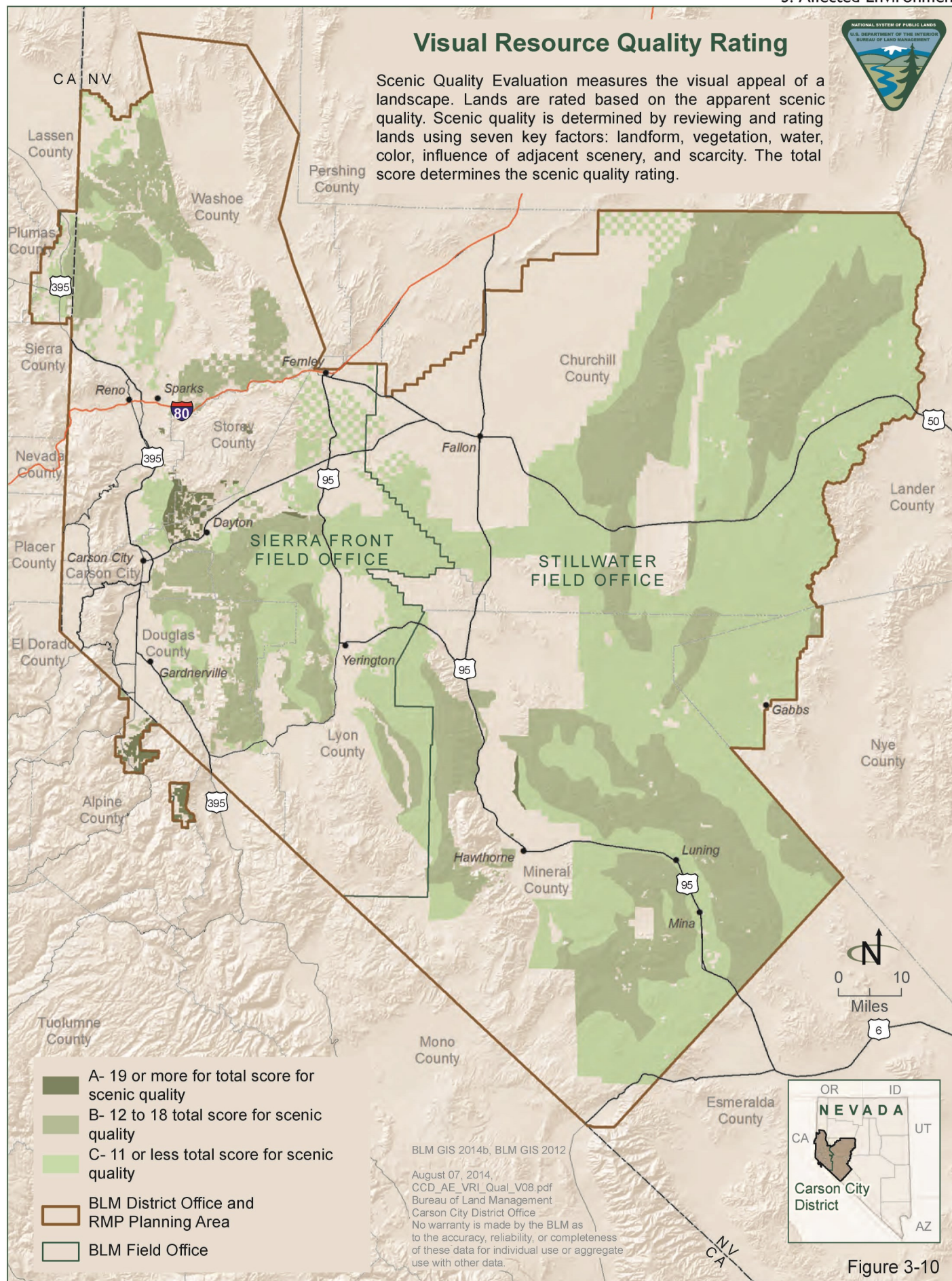


Figure 3-10

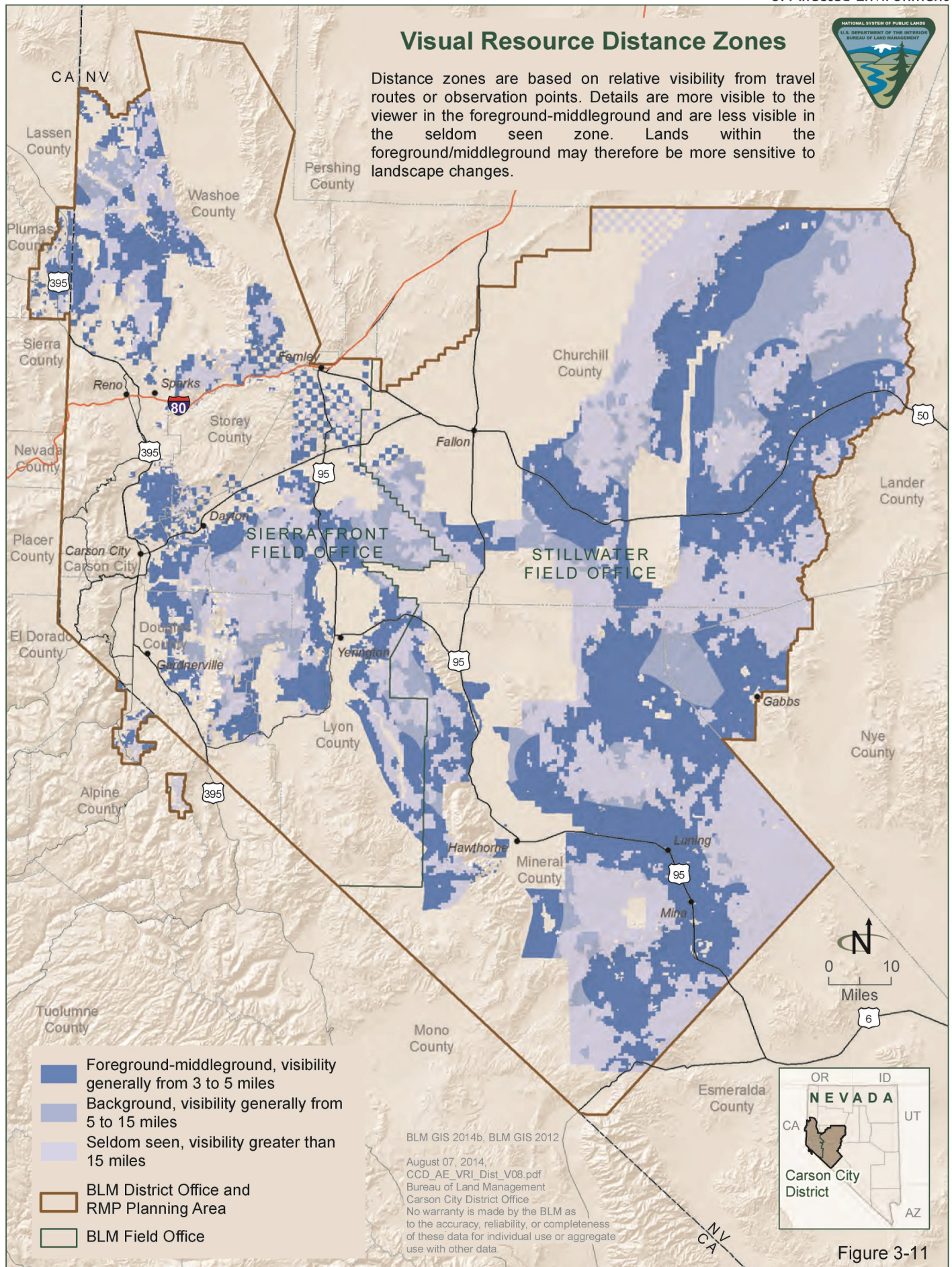


Figure 3-11

Lands that fall within the VRM Class I areas are comprised solely of the wilderness study areas. VRM Class II objectives were applied to the special designations such as scenic areas. VRM Classes III and IV areas comprise the majority of the BLM-administered lands in the eastern half of the planning area. In general, areas on or near transportation routes in the lower portions of the basin, areas undergoing oil and gas or other development, and areas with less visual variety and scenic quality fall within VRM Class III and Class IV categories.

Key Features

Key features in the planning area include areas with unique landforms, impounded or flowing water, historic trails, scenic areas, and recreation sites. There are several areas that have been designated as scenic areas in the planning area. These areas were established to identify areas of outstanding visual quality and are managed to protect and enhance scenic qualities while allowing the maximum amount of recreational use as possible. Scenic areas are managed according to VRM Class II objectives. Designated scenic areas are the Burbank Canyons, East Walker, Incandescent Rocks Natural Scenic ACEC, and the Lassen Red Rocks. No additional scenic areas have been proposed for the planning area, but the land use planning process may identify additional areas suitable for this designation. During the RMP revision, areas that have been previously designated as scenic areas were evaluated for designation as areas of critical environmental concern with relevant and important values.

Other key features include WSAs, certain transportation corridors such as the East Fork of the Carson River, V&T Railroad, Fort Churchill to Wellington Back Country Byway, Highways 50 and 95, Sand Mountain, National Historic Trails, and special designation areas such as Grimes Point Archeological Area.

Designated scenic areas are described below.

Burbank Canyons Scenic Area. The Burbank Canyon Scenic Area is in Douglas and Lyon Counties 5 miles northwest of Wellington and 15 miles southeast of Gardnerville; the scenic area overlays the Burbank Canyon WSA. In the event the WSA is released from wilderness consideration by Congress, the scenic area designation would remain in effect. Further discussion of this area can be found in **Section 3.4.5**, Wilderness Study Areas.

East Walker Scenic Area. Under the Forest Enhancement Act of 1989, most of the 4,300 acres within the scenic area were transferred to the Forest Service, but approximately 53 acres within the scenic area remain on BLM-administered lands. The area is located west of Hawthorne along the California and Nevada border and is surrounded by National Forest and private lands.

Incandescent Rocks Natural Scenic ACEC. The Incandescent Rocks Natural Scenic ACEC (BLM 1988b) is a 1,072-acre site in southern Washoe County, 25 miles north of the Reno-Sparks area and 5 miles east of Pyramid Lake. The site is known for the rhyolitic outcrops and ridges that are characterized by red,

yellow, orange, and purple hues that appear to fluoresce or glow as light reflects off the walls. Further discussion can be found in **Section 3.4.1, Areas of Critical Environmental Concern**.

Lassen Red Rocks Scenic Area. The Lassen Red Rocks Scenic Area is an 804-acre site in Lassen County, California and Washoe County, Nevada off of Highway 395 on the southwest edge of Petersen Mountain. The area was designated via a Federal Register Notice (49 *Federal Register* No. 213, November 1, 1984). The scenic area designation is attributed to the unique and colorful geological features, including bright red, white, and grey pillars, pinnacles, crags, and canyons. Management objectives were to develop a day use/picnic area, limit OHV use to roads and trails, and protect the geologic features.

Trends

In any given year, the BLM authorizes a wide variety of activities that have the potential to impact scenic values. These activities range from vegetation and habitat improvement projects to large-scale geothermal energy, mineral, and mining operations or exploration. The increased demands for renewable energy and mineral development have increased the pressures on maintaining visual resources.

Current management practices, based on BLM Washington Office guidance, have led to a reduction of impacts on the visual resources in the planning area but fail to provide adequate guidance for on-site/off-site mitigation measures or design alternatives. Surface-disturbing activities have been mitigated to meet the objectives of the VRM Class according to which the BLM parcel is managed.

Resource Changes

Landscapes that suffer the greatest impacts from development without consideration of scenic values or the use of mitigation measures, or from unauthorized dispersed recreation uses, include areas with urban interface, travel corridors, popular recreation sites, and areas with multiple or conflicting resource use demands.

The present VRM classifications throughout the planning area do not adequately reflect the visual quality of the region, and mitigation standards and design alternatives are not sufficiently outlined in the Consolidated RMP or subsequent activity plans. Cumulative impacts from the lack of direction may reduce the visual quality in some areas due to short- and long-term impacts. Potential transportation or utility corridors, including interstate transmission and gas lines that traverse the planning area, could also negatively affect visual resources in the planning area without the proper planning.

3.2.12 Lands with Wilderness Characteristics

The BLM's authority to conduct wilderness reviews, including the establishment of new WSAs, expired on October 21, 1993, pursuant to Section 603 of the FLPMA. The BLM has retained authority under Sections 201 and 202 of the

FLPMA to inventory BLM-administered lands for wilderness characteristics and to consider such information during land use planning (BLM Manual 6320, Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process; BLM 2012c). Through this planning process, the BLM has discretion to determine which portions of BLM-administered lands with wilderness characteristics would be protected by special management. While the BLM is in the land use planning process, the BLM will manage lands so as not to forgo management options in the event that new information is presented, evaluated, and incorporated into the planning process as part of one or more RMP alternatives.

Procedures for conducting inventories for lands with wilderness characteristics are laid out in BLM Manual 6310, Conducting Wilderness Characteristics Inventory on BLM Lands (BLM 2012b). The inventory process entails the identification of wilderness inventory units, an inventory of roads and wilderness characteristics, and a determination of whether or not the area meets the overall criteria for wilderness character. Units found to possess such character are evaluated during the land use planning process to address future management for wilderness characteristics. Wilderness characteristics considered in this analysis include size (must be roadless areas larger than 5,000 acres), naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. An area with wilderness characteristics may also contain other values not necessary for the determination of wilderness character; these are known as supplemental values. These wilderness characteristics are further described below:

- **Size:** An area must be a roadless area of 5,000 acres of contiguous BLM-administered lands or, if less than 5,000 acres, must be contiguous with BLM-administered lands that have been formally determined to have wilderness or potential wilderness values (e.g., designated wilderness and WSAs) or any federal lands managed for the protection of wilderness characteristics.
- **Naturalness:** Lands and resources exhibit a high degree of naturalness when affected primarily by the forces of nature and where the imprint of human activity is substantially unnoticeable. An area's naturalness may be influenced by the presence or absence of roads or other developments; the nature and extent of landscape modifications; and the connectivity of habitats. Wildlife populations and habitat are recognized as important aspects of naturalness and would be actively managed.
- **Outstanding Opportunities for Solitude or Primitive and Unconfined Types of Recreation:** Visitors may have outstanding opportunities for solitude or primitive and unconfined types of recreation when the sights, sounds, and evidence of other people are rare or infrequent; where visitors can be isolated, alone, or secluded from

others; where the use of an area is nonmotorized, nonmechanical means; and where no or minimal recreation facilities are encountered.

- Supplemental Values: The area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Current Conditions

Previous planning documents did not provide special management for areas outside of WSAs with wilderness characteristics. During this RMP revision process, the BLM completed a review of BLM-administered lands within the planning area to determine whether they possess wilderness characteristics.

An external group has advocated wilderness designations through participation in the land use planning processes. The BLM's current review of lands for wilderness characteristics included these external nominations, areas identified through inventory and monitoring, and adjacent designations of other federal and state agencies. This review includes only BLM-administered lands and does not include portions of wilderness proposals on National Forest System lands or lands within existing WSAs.

Assessment of lands with wilderness characteristics was developed from the following sources:

- A review of Wilderness Review, Nevada: Intensive Inventory of Public Lands Administered by BLM, Decision Report (BLM 1980) and Wilderness Review, Nevada: Initial Inventory of Public Lands Administered by BLM, Decision Report (BLM 1979). These documents are comprehensive evaluations of wilderness characteristics on BLM-administered lands in Nevada that were conducted from 1978 to 1980, as directed by Section 603 of the FLPMA.
- Public input received during scoping that delineated tracts of BLM-administered lands reported to possess wilderness characteristics.
- A citizens group's wilderness characteristics proposals submitted December 2013. The citizens' proposals were based upon their application of BLM Manual 6310, Conducting Wilderness Characteristics Inventory on BLM Lands, which requires route forms, road/way definitions, size requirements, definitions of "outstanding," and files, narratives and documentation for all areas proposed.

A portion of the Monte Cristo North unit, which is primarily within the Battle Mountain District but crosses into the Stillwater Field Office, was also determined to have wilderness characteristics by the Battle Mountain District.

Of the areas inventoried, up to 416,500 acres potentially contain wilderness characteristics and are considered for a variety of management approaches in the alternatives for this RMP. A final determination as to the management of these areas will be issued through a separate ROD.

Table 3-24, Units Inventoried for Wilderness Characteristics Outside Existing Wilderness Study Areas, displays the units that were inventoried for wilderness characteristics and the areas found to have wilderness characteristics and potentially be managed to maintain those characteristics.

Table 3-24
Units Inventoried for Wilderness Characteristics Outside Existing Wilderness Study Areas

Unit Name	Unit Identifier	Acres Inventoried	Acres with Wilderness Characteristics	Acres without Wilderness Characteristics
Agai Pah Hills*	NV-030-402	27,200	27,200	0
Chukar Ridge*	NV-030-405	29,100	29,100	0
Excelsior North*	NV-030-425	54,400	54,400	0
Excelsior South*	NV-030-430	49,200	49,200	0
Finger Rock*	NV-030-409	41,500	41,500	0
Lyon Peak*	NV-030-520	16,300	16,300	0
Monte Cristo North**	NV-050-306	9,800	9,800	0
Peterson Mountain*	NV-030-610	16,300	16,300	0
Rawe Peak*	NV-030-517	39,800	39,800	0
Job South*	NV-030-120,116,117	77,400	77,400	0
Stillwater Additions*	NV-030-104	19,100	19,100	0
Tule Peak*	NV-030-605	36,400	36,400	0

Source: BLM 2014c

*Represent citizen-proposed submissions by the Friends of Nevada Wilderness

**Acres are for the CCD portion only

Acres listed in **Table 3-24** are subject to change and are preliminary pending completion of the lands with wilderness characteristics assessment and report. More information on the evaluation of proposed wilderness units, including methodology for analysis, as well as detailed information on all inventoried units, is in a separate draft *Lands with Wilderness Characteristics Inventory Summary Report*. The final *Lands with Wilderness Characteristics Inventory Summary Report* is anticipated winter 2015.

Resource Changes

Comparison of the 1978-1980 wilderness characteristics review with fieldwork conducted are identified in the following findings:

- The decision areas maintained a high degree of overall naturalness. There were large-scale or incompatible land uses with long-lasting or irreversible effects on naturalness occurring over the intervening period since 1980.

- More acres of BLM-administered lands in the decision areas exhibited potential wilderness characteristics in 2014 (compared to the original inventory in the 1980s), mainly due to either additional acres not considered in the 1980 wilderness review or changing land uses coupled with natural reclamation. Changing land uses often reflected a decline in mineral exploration and assessment.
- The BLM's field assessments and BLM's comprehensive inventory of vehicle routes found a rise in motorized public visitation and the popularity of many areas for driving four-wheel drive and all-terrain vehicles. Many washes and most upland routes were being used for motorcycle and OHV travel, which are uses not common in the area in 1980. As such, the implementation of travel management may have considerable influence on lands managed to protect wilderness characteristics.

For areas with wilderness characteristics that lie outside established WSAs, increased commercial development and recreation use, including OHV use, may affect naturalness, solitude, and primitive recreation values. Management actions may need to be taken to preserve or protect these values.

3.2.13 Cave and Cave Resources

With the passage of the Federal Cave Resources Protection Act, Sec. 3(1) of 1988, Congress declared that significant caves on federal lands are an invaluable and irreplaceable part of the Nation's natural heritage and recognized that significant caves may be threatened due to improper use, recreational demand, urban spread, and lack of protection. The purpose of the Act is to secure, protect, and preserve significant caves on federal lands for the perpetual use, enjoyment, and benefit of all people and to foster increased cooperation and exchange of information between governmental authorities and those who utilize caves located on federal lands for scientific, education, or recreational purposes. With the Act, Congress established policy that federal lands be managed in a manner that protects and maintains, to the extent practical, significant caves, and cave resources.

The Act defines a cave as any naturally occurring void, cavity, recess, or system of interconnected passages occurring beneath the surface of the Earth or within a cliff or ledge that is large enough to permit an individual to enter, whether or not the entrance is naturally formed or man-made. A karst is an area of irregular limestone or carbonate in which erosion has produced fissures, sinkholes, underground streams, and caverns. Caves may be considered nonrenewable resources due to the nature of the animal and plant life, paleontological deposits, biological resources, or minerals.

Under the Act, a cave is considered significant if it meets one or more of the following six criteria:

- Biota. The cave serves as seasonal or yearlong habitat for organisms or animals, or contains species or subspecies of flora or fauna native to caves, or is sensitive to disruption, or contains species found on state or federal sensitive, threatened, or endangered species lists.
- Cultural. The cave contains historic or archeological resources included in or eligible for inclusion in the NRHP because of its research importance for history or prehistory, its historical association, or other historical or traditional significance.
- Geological/Mineralogical/Paleontological. The cave possesses one or more of the following features: geologic or mineralogical features that are fragile or exhibit interesting formations.
- Hydrologic. The cave is part of a hydrologic system or contains water important to humans, biota, or development of cave resources.
- Recreational. The cave provides or could provide recreational opportunities or scenic values.
- Educational or Scientific. The resource offers opportunities for educational or scientific use or is in a virtually pristine state, lacking evidence of contemporary human disturbance or impact, or the length, height, volume, total depth, or similar measurements are notable (43 CFR Part 37).

In observance of the Act, federal lands are managed in a manner which, to the extent practical, protects and maintains significant caves and cave resources (43 CFR Part 37.2). The type and degree of protection will be determined through the resource management planning process with full public participation.

Current Conditions

The geologic setting of the planning area consists of granitic and metamorphic rocks that are overlain by volcanic and sedimentary rocks, so there is little opportunity for the formation of large or extensive cave systems. The majority of the caves in the planning area consist of undercut rock shelters and shallow cavities in basalt or rhyolite rock that were formed by wave action from ancient Lake Lahontan approximately 21,000 years ago. The wave action at various lake levels provided a mechanism to carve shoreline terraces and caves into the surrounding topography. No significant karst features have been identified in the planning area due to the lack of significant deposits of limestone that are required for the formation of karst-type caves or fissures.

There are several named and unnamed caves in the planning area. Caves with cultural significance exist but have not been identified or mapped in a single database, or the caves are proprietary in nature and the locations are documented only in cultural files as a means to protect the resource. Natural caves suitable for supporting biota such as bats are scattered throughout the

planning area, but minimal mapping or identification has occurred for this resource as well.

Hidden Cave is an archeologically significant cave located within the Grimes Point Archaeological Area 12 miles east of Fallon. This cave is an archeological site of importance for the understanding of the human occupation of the Great Basin and climatic changes that have occurred over the last 20,000 years. Excavations occurred in the 1940s, 1950s, and in the 1970s when the last set of excavations were left intact to serve as interpretive materials for archeological methods. Interpretive tours of the cave and surrounding area have been provided for 30 years, and in 2010, over 1,300 people were provided tours of Hidden Cave by BLM interpretive specialists and the Churchill County Museum. Two rock shelters, Burnt Cave and Picnic Cave, are part of the Hidden Cave interpretive tour.

There are no caves that provide recreational caving opportunities such as exploration or spelunking. The most important significance for caves is the support of several bat species that live or migrate through the area and for cultural resources.

Resource Changes

The potential for additional cave discoveries within the planning area is low considering geological data, the basin and range topography, and the amount of mineral exploration that has occurred in the ranges since the mid-1800s.

Primarily, caves within the planning area have significance due to bat habitat, bryophyte habitat, prehistoric use, or the presence of artifacts and pictographs as well as cultural connections with local Tribes. While the physical location of culturally significant caves is not publicized by the BLM, they are often known to the local populations through printed literature, USGS topographic maps, and from being passed down verbally through family and friends. This has resulted in historic as well as present day concerns from acts of theft, vandalism, and degradation of cultural artifacts and values.

With the exception of documented occurrences of vandalism, trend data for cave resources in the planning area is not collected and remains anecdotal. As recreational use of BLM-administered lands increases and the public becomes more aware of cave locations, the incidents of vandalism from graffiti and target shooting may increase. Visitation can negatively impact the biological and cultural importance of a cave from the introduction and spread of invasive weeds and organisms, soil compaction, and the disturbance of artifacts, to the spread of certain diseases such as White Nose Syndrome that can terminally infect bat populations. Cave resources will continue to be impacted by the public until management decisions are developed to adequately protect the resources.

3.3 RESOURCES USES

This section contains a description of the human uses of resources in the planning area and follows the order of topics addressed in **Chapter 2**:

- Forestry and Woodland Products
- Livestock Grazing
- Geology and Minerals (locatable, salable, and leasable)
- Recreation and Visitor Services
- Comprehensive Travel and Transportation Management
- Lands and Realty
- Renewable Energy

3.3.1 Forestry and Woodland Products

Current Conditions

The FLPMA requires that BLM-administered lands be managed under principles of multiple use and sustained yield. It also requires that fair market value is received for the use of public lands and its resources. As such, all forest products removed for commercial and public use require a permit unless it falls under reasonable use. At this time the only product that is removed from BLM-administered lands in the planning area without a permit is up to 25 pounds of pine nuts by individuals. Christmas trees, native seed, firewood, post, poles, and lumber require a permit issued under forms 5450-1, 5450-3, 5450-4, 5450-25, and 5450-26 (BLM 1992).

Historically, the CCD sold more special forest products (e.g., firewood, Christmas trees, and poles) than any other BLM district in Nevada. However, in recent years, the Ely District has been selling more special forest products than CCD as a by-product of fuels and rangeland restoration projects.

Electronic data on products sold is only available since 2007 (BLM 2012d). Biomass, pine nuts, posts, poles, and boughs sold during this 5-year period make up less than 1 percent of the total product sales. Firewood and Christmas trees make up 99 percent of the products sold on the CCD (**Table 3-25**, Permits Sold and Receipts Received from 2007 to 2013).

Christmas tree sales are showing a slight decline, whereas firewood permits were on the increase until 2011. Without specific data on regional economic trends influencing these sales, there can be no conclusions drawn about the cause of the declines/increases. However, the BLM has an active program to provide permits to the general public. The CCD has made recent attempts to increase the supply and availability of permits by selling permits in Fallon, Hawthorne, Middlegate, Reno, and Cold Springs, Nevada.

Table 3-25
Permits Sold and Receipts Received from 2007 to 2013

	2009	2010	2011	2012	2013	5-year Average
Christmas Tree Permits	1,882	1,607	1,583	1,547	1,639	1,652
Fire Wood Permits	933	1,051	743	1,468	1,258	1,573
Total Permits	2,815	2,658	2,326	3,015	2,897	3,225
Christmas Tree Receipts	\$7,448	\$6,428	\$6,338	\$6,188	\$8,191	\$6,919
Fire Wood Receipts	\$14,844	\$15,900	\$13,184	\$11,936	\$10,064	\$13,097
Total Receipts	\$22,292	\$22,328	\$19,522	\$18,124	\$18,255	\$20,015

In addition to the aforementioned public sales of forest products, commercial sales of firewood have been implemented in the past. To meet this demand, the BLM typically designates a commercial harvest area and sells the products by using a Forest Product Sale Contract. The designated harvest areas are determined by resource needs such as fuel hazard reduction, rangeland restoration, or salvage of dead and dying trees.

Another important forest product opportunity that has been implemented in the planning area is the use of stewardship contracts to harvest products and pay for restoration services. In these contracts, the contractor harvests trees designated by the BLM and the receipts from the sale of these products help pay for the cost of disposing of activity fuels, trail and road restoration, and site rehabilitation. Since 2007, there have been three stewardship contracts totaling 109 acres.

There are numerous state and national efforts to utilize woody biomass in meeting forest health objectives and renewable energy goals. For example, a Statewide Natural Resource Assessment was issued in 2010 by the Nevada Division of Forestry. This assessment identified BLM-administered lands in the planning area as priority landscapes for addressing catastrophic wildfire, forest health declines, and invasive weeds (National Department of Forestry 1990). This assessment identified the lack of product utilization opportunities (e.g., mills, biomass plants, and pellet plants) as a limiting factor in successful restoration of forest and woodland stands in the priority landscapes. Other than firewood permits, the BLM has only sold 13 green tons of biomass. The one biomass facility constructed in 2007 within the planning area has since closed (Atkins 2012).

Pinyon pine nuts are another important forest product available within the planning area. The Consolidated RMP allowed harvest throughout the planning area with no limitations on the amount that can be harvested overall. The Consolidated RMP limited noncommercial harvest to less than 25 pounds per individual. Harvest exceeding the 25-pound threshold requires a commercial permit at fair market value, subject to Field Manager approval. Commercial permits have not been issued since the early 1990s due to concerns expressed by Tribes about commercial collection within traditional pine nut hunting areas.

Key Features

A key factor of where forest and woodland product availability can be enhanced is consideration of the topographic and geographic locations of forest and woodland stands. Special emphasis should be placed on areas that meet one or more of the following criteria:

- Proximity to existing or emerging markets (i.e., distance for transport of products)
- Near rural and urban areas when implementing fuels reduction and forest health treatments
- Along road systems to minimize yarding distances
- On gentle slopes where mechanical treatments are more feasible (less than 30 percent).

As discussed in the **Section 3.2.4, Vegetation**, pinyon-juniper expansion has created the need to remove Phase I and Phase II woodlands around critical sagebrush habitats. In general, these lower density woodlands would not produce as much product opportunity as denser stands and may be better treated by leaving cut trees on site. Denser woodlands that are in need of thinning would be the best opportunity for product utilization.

The pine, mixed conifer, and fir stands in Alpine County contain larger diameter trees than any other areas of the district, and as such there are established markets for commercial-sized trees (greater than 8 inches in diameter) that could be thinned out to achieve forest health and resiliency to fire. Because there is product value, there is more potential for funding the restoration of these stands using various contract types (e.g., timber sale, service, and stewardship).

Due to the importance of riparian deciduous and aspen stands for landscape diversity, ecosystem functioning, and water availability for wildlife, livestock, and horses, the management of these stands should focus on retaining key species/structures, protecting stands from high-intensity wildfire, and limiting surface erosion/soil deposition. There are no established markets for utilizing by-products of treatments in this type, but there are opportunities to harvest cuttings or seed that can be transplanted or grown in nurseries for planting into similar areas to meet restoration goals. No significant forest product markets exist for mountain mahogany, but there are needs to collect seed for growing plants that can be used to plant areas after disturbance.

Resource Changes

Firewood, posts, poles, and biomass are all low-value products. The felling (cutting down individual trees), processing, and transportation costs associated with these products limit the feasibility of large-scale utilization.

The major emerging markets for forest products from the lands in the planning area include bioenergy, biofuels, biochar, and to a lesser extent, pellet plants. These markets are in the early stages of development in Nevada. In California, however, the market for bioenergy has already been developed in certain regions (e.g., Northeast California). In general, these California markets help pay for the processing and transport of biomass (wood chips).

Forest health and landscape diversity to build resiliency to climate change, fire, insects, and disease are issues that forest and woodland management objectives should specifically address. The need for vegetation treatments such as density reduction of overstocked stands, removing encroaching conifers from aspen stands, addressing disease or insect outbreaks, and restoring riparian tree communities, will continue to be a challenge into the future.

3.3.2 Livestock Grazing

For BLM-administered lands, the foremost authority that provides for grazing on public land is the Taylor Grazing Act. This act was passed on June 28, 1934, to protect public rangelands and their resources from degradation, to provide an orderly use to improve and develop public rangelands, and to stabilize the livestock industry. Following various homestead acts, the Taylor Grazing Act established a system for allotting grazing privileges. The FLPMA and the Public Rangeland Improvement Act of 1978 also provide authority for managing grazing on public rangelands. Grazing administration exclusive of Alaska is governed by 43 CFR subpart 4100.

The BLM grazing administration regulations were revised in 1995 to include Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration (43 CFR Part 4180). Through conformance and attainment of the 2007 RAC-approved Standards and Guidelines for Rangeland Health for the Sierra Front-Northwestern Great Basin Area (BLM 2007a) and outlined in Nevada Standards for Public Land Health and Guidelines for Livestock Grazing Management (**Appendix D**), the CCD assures that the Fundamentals of Rangeland Health are met. The standards and guidelines provide a clear statement of agency policy and direction for those who use public lands for livestock grazing and for those who are responsible for their management and accountable for their condition. If livestock grazing management practices are a significant factor to the nonattainment of a standard, changes in management must be implemented as soon as practicable, but no later than the start of the next grazing year after determining that existing grazing management needs to be modified, to ensure that progress is being made toward attainment of the standards. Standards include specific direction for five main categories of assessment, including soil health, riparian and wetlands, plant and animal habitat, special status species habitat, and water quality.

All applicants for grazing permits must also meet the qualifications for public land grazing privileges that are specified in the BLM's grazing regulations,

including the control over accepted base property, which is private property recognized by the BLM as having preference (or priority) for the use of grazing privileges.

An allotment is a designated area or management unit that allows grazing and can be made up of multiple pastures. The allowed use of grazing on each allotment is determined based on allocated Animal Unit Months (AUMs). An AUM is equal to the approximate amount of forage needed to sustain 1 cow, 5 sheep, or 5 goats for a month.

Current Conditions

Current Level and Locations of Use

Livestock grazing has had an important historical role in the planning area economy. Livestock grazing and ranching represent cultural traditions and continue to influence the way of life in rural Nevada. Details of the socioeconomic role of livestock grazing are included in **Section 3.5.4, Social and Economic Conditions**.

Currently 4,796,600 acres (99.9 percent) of BLM-administered public land within the planning area are available for livestock grazing, and 6,700 acres (0.1 percent) are not available for livestock use (see **Figure 2-21, Alternative A: Livestock Grazing**). Areas available for grazing include 4,652,300 acres within allotments and 144,300 acres of unallotted areas. The permitted level includes 151,196 active AUMs.

Within the planning area, there are approximately 93 allotments and 52 permittees. The allotments vary in size from 120 to 512,449 public land acres, with grazing allocations ranging from 29 to 11,410 AUMs in each allotment. In 2011, 82 percent of the permits were for cattle (55 permits), with sheep and horse grazing accounting for the remaining 18 percent (12 permits). Individual operators graze animals on 72 allotments, while the remaining 5 are common allotments grazed by two or more operators. **Table 3-26, Livestock Grazing in the Planning Area—Allotment Details**, shows grazing allotments, acreages, permitted AUMs, and grazing periods within the planning area. Approximately 17 allotments are available for grazing, but have no authorized grazing for a variety of reasons, including, but not limited to, grazing for wildlife, voluntary relinquishment, and issues with base property.

The CCD also has MOUs with other BLM districts that establish management of grazing allotments. New Pass, Porter Canyon, South Smith Creek, and Stewart Springs Allotments are within the Battle Mountain District but are administered by the Stillwater Field Office. Hole in the Wall, Rochester Common, and a portion of Boyer Ranch Allotments are within the Winnemucca District, with administration provided by the Stillwater Field Office.

Table 3-26
Livestock Grazing in the Planning Area—Allotment Details

Allotment Name	Allotment Number	Period Begin Date	Period End Date	BLM Acres	AUMs	Livestock Kind	Authorization No.
Adriance Valley	3000	4/1	8/31	32,100	337	Cattle	2702889
Adriance Valley	3000	3/1	3/31	32,100	188	Cattle	2702889
Adriance Valley	3000	9/1	2/28	32,100	1,095	Cattle	2702889
Antelope Mountain	3001	4/15	10/31	55,800	6,358	Cattle	2703001
Artesia	3500	1/1	2/1	13,400	736	Cattle	2703614
Bagley Valley	3504	6/21	9/21	5,800	131	Sheep	2700069
Barney Riley	3506	6/1	9/30	2,200	219	Cattle	2703519
Basalt*	3505			22,200			
Bass Flat	3002	11/15	4/15	37,600	1,599	Cattle	2703219
Belleville	3511	11/1	4/15	164,300	300	Cattle	2702877
Big Canyon	3004	5/1	5/31	14,000	282	Cattle	2703008
Big Canyon	3004	6/1	12/31	14,000	2,650	Cattle	2703008
Big Canyon	3004	4/1	4/30	14,000	63	Cattle	2703008
Big Canyon	3004	5/1	11/30	14,000	56	Horse	2703008
Black Mountain	3507	10/1	2/28	14,300	900	Sheep	2703442
Boyer Ranch	3006	10/1	2/28	129,500	889	Cattle	2703018
Boyer Ranch	3006	5/1	6/30	129,500	359	Cattle	2703018
Boyer Ranch	3006	7/1	9/30	129,500	541	Cattle	2703018
Buckeye	3509	4/1	9/15	82,000	1,471	Cattle	2703508
Bucky O' Neill	3007	11/15	2/28	39,800	1,045	Cattle	2703503
Bucky O' Neill	3007	3/1	4/15	39,800	454	Cattle	2703503
Butler Mountain	3510	3/1	5/15	46,100	1,179	Sheep	2703443
Butler Mountain	3510	11/1	2/28	46,100	1,861	Sheep	2703443
Carson	3003	12/1	11/30	3,400	193	Cattle	2703029
Carson Hill*	3512			5,100			
Carson Plains/Gold H	3513	4/1	5/31	21,200	416	Sheep	2702960
Carson Plains/Gold H	3513	4/1	4/30	21,200	119	Sheep	2702960
Cedar Mountain	3515	11/1	3/31	60,200	X**	Cattle	2703554
Central	3516	10/2	10/31	300	29	Cattle	2703614
Churchill Butte	3008	10/1	3/31	10,700	934	Cattle	2703030
Churchill Canyon	3518	11/1	11/30	48,500	4	Cattle	2703525
Churchill Canyon	3518	11/1	5/15	48,500	1,070	Cattle	2703525
Clan Alpine	3009	12/1	2/28	358,500	1,028	Sheep	2703210
Clan Alpine	3009	3/1	3/15	358,500	172	Sheep	2703210
Clan Alpine	3009	5/1	3/31	358,500	10,210	Cattle	2703054
Cleaver Peak	3010	11/1	3/31	40,500	1,241	Cattle	2703011
Clifton*	3519			19,200			
Clifton Flat	3011	3/1	3/31	7,600	73	Cattle	2700019
Clifton Flat	3011	11/1	2/28	7,600	284	Cattle	2700019
Constantia North	3427	6/15	9/15	9,600	459	Cattle	2703170
Constantia South	3012	4/15	8/31	10,700	650	Cattle	2703024
Copper Kettle	3013	3/1	2/28	72,100	2,339	Cattle	2700176
Cow Canyon	3015	5/1	11/15	146,200	2,388	Cattle	2703012
Desert Mountain	3017	11/1	3/31	21,300	840	Cattle	2703031
Dixie Valley	3018	3/1	3/31	261,200	5	Cattle	2703376
Dixie Valley	3018	3/1	2/28	261,200	6,336	Cattle	2703376

Table 3-26
Livestock Grazing in the Planning Area—Allotment Details

Allotment Name	Allotment Number	Period Begin Date	Period End Date	BLM Acres	AUMs	Livestock Kind	Authorization No.
Duck Hill	3530	11/16	12/15	5,300	14	Sheep	2702898
Duck Hill	3530	5/1	6/30	5,300	172	Sheep	2702898
East Walker	3531	12/1	2/28	30,100	1,471	Cattle	2703518
East Walker	3531	3/1	3/31	30,100	507	Cattle	2703518
Eastgate	3020	4/16	10/31	306,000	1,564	Cattle	2703603
Eastgate	3020	3/1	4/15	306,000	2,273	Cattle	2703603
Eastgate	3020	11/1	2/28	306,000	5,930	Cattle	2703603
Edwards Creek	3021	12/1	11/30	56,500	3,309	Cattle	2703029
Eldorado Canyon*	3532			9,700			
Flanigan	3022	4/16	6/15	54,500	1,352	Cattle	2703431
Flanigan	3022	12/1	4/15	54,500	1,297	Cattle	2703431
Flanigan	3022	6/16	9/30	54,500	2,367	Cattle	2703431
Fort Churchill	3023	4/1	7/31	14,600	541	Cattle	2703011
Frenchman Flat	3024	10/15	2/28	25,100	1,815	Cattle	2703058
Frenchman Flat	3024	3/1	3/15	25,100	199	Cattle	2703058
Garfield Flat	3535	10/25	2/28	220,400	2,579	Cattle	2703439
Garfield Flat	3535	3/1	4/15	220,400	934	Cattle	2703439
Gillis Mountain	3536	11/15	4/30	166,200	2,331	Cattle	2700175
Gray Hills	3539	6/5	8/4	98,800	570	Sheep	2703539
Gray Hills	3539	10/16	4/15	98,800	3,710	Sheep	2703539
Hackett Canyon	3541	3/15	6/30	6,800	146	Sheep	2700158
Hackett Canyon	3541	3/15	6/30	6,800	39	Cattle	2700158
Hallelujah Junction	3026	4/15	5/15	15,200	102	Cattle	2703040
Hallelujah Junction	3026	4/15	11/30	15,200	1,074	Cattle	2703040
Hangman*	3542			500			
Hardscrabble Canyon	3027	3/1	10/31	12,500	1,221	Cattle	2703060
Harvey Flat	3543			4,500	closed		
Hay Press	3544	6/16	9/30	1,200	176	Cattle	2703500
Hole in the Wall				82,500	2,675		
Horse Mt	3031	11/1	2/28	62,600	2,371	Cattle	2703037
Horse Mt	3031	3/1	3/31	62,600	613	Cattle	2703037
Horse Spring	3032	11/1	3/31	15,300	601	Cattle	2703004
Hudson Hills	3545	2/2	3/15	42,700	967	Cattle	2703614
Hudson Hills	3545	4/16	5/25	42,700	421	Sheep	2703444
Hudson Hills	3545	12/16	2/28	42,700	3,088	Sheep	2703444
Indian Creek*	3547			1,000			
Jumbo	3034	5/1	6/30	26,200	755	Sheep	2702898
Jumbo	3034	5/1	8/31	26,200	643	Cattle	2703006
Koch Ditch*	3552			500			
La Beau Flat	3035	10/1	2/28	121,300	2,323	Cattle	2703026
La Beau Flat	3035	3/1	4/15	121,300	708	Cattle	2703026
Lahontan	3036	3/1	3/31	55,800	236	Cattle	2702955
Lahontan	3036	11/1	2/28	55,800	915	Cattle	2702955
Lincoln Flat	3555	11/1	12/31	17,900	1,404	Cattle	2703614
Little Hunttoon	3546	11/1	4/15	13,700	60	Cattle	2703167
Lucky Boy*	3557	6/1	10/5	19,500	835	Cattle	2703518

Table 3-26
Livestock Grazing in the Planning Area—Allotment Details

Allotment Name	Allotment Number	Period Begin Date	Period End Date	BLM Acres	AUMs	Livestock Kind	Authorization No.
McBride Flat*	3560			5,100			
Mickey Pass*	3561			4,800			
Mill Canyon*	3563			19,200			
Millberry Canyon*	3562			1,300			
Mountain Well-Laplata	3039	3/1	2/28	133,200	8,004	Cattle	2703288
New Pass	UNK			10,000			
Nine Mile	3569	4/1	5/31	27,000	1,889	Cattle	2703518
Nine Mile	3569	10/1	11/30	27,000	401	Cattle	2703518
Olinghouse	3041	10/1	2/28	23,000	495	Cattle	2703055
Olinghouse	3041	11/1	5/15	23,000	97	Cattle	2703065
Olinghouse	3041	3/1	3/31	23,000	102	Cattle	2703055
Pah Rah	3042	9/1	12/31	4,500	180	Cattle	2703015
Paiute Canyon	3043	3/1	2/28	69,900	4,800	Cattle	2703199
Parker Butte	3572	11/21	5/20	30,700	1,666	Cattle	2703279
Perry Springs-Deadman	3573	12/1	2/28	59,200	1,784	Cattle	2703518
Perry Springs-Deadman	3573	3/1	3/31	59,200	615	Cattle	2703518
Phillips Well	3046	12/1	3/31	79,900	1,448	Cattle	2703003
Pilot-Table Mountain	3574	11/1	3/31	526,900	4,468	Cattle	2703557
Pilot-Table Mountain	3574	4/1	10/31	526,900	1,055	Cattle	2703557
Pilot-Table Mountain	3574	3/1	2/28	526,900	144	Horse	2703557
Pinenut	3576	11/1	11/30	19,000	126	Sheep	2703505
Pinenut	3576	7/1	8/31	19,000	261	Sheep	2703505
Pinenut	3576	11/1	11/30	19,000	447	Sheep	2703505
Pinenut	3576	6/1	6/30	19,000	316	Sheep	2703505
Plumas Station	3047	4/1	9/30	5,500	307	Cattle	2703051
Rawe Peak*	3580			6,900			
Red-Burbank*	3581			4,800			
Red Rock	3014	4/15	10/31	3,500	454	Cattle	2703001
River	3521	3/1	2/28	120	84	Cattle	2703518
Rock Springs	3049	11/1	4/15	24,900	535	Cattle	2703019
Salt Wells	3050	10/15	4/15	51,200	1,624	Cattle	2703042
Sand Canyon*	3583			4,000			
Spanish Springs/Mustang	3052	11/1	4/30	24,500	708	Cattle	2703386
Spanish Springs/Mustang	3052	3/1	2/28	24,500	1,068	Cattle	2703093
Spring Gulch	3587	3/1	8/15	52,500	2,749	Sheep	2703444
Spring Gulch	3587	4/1	5/25	52,500	362	Sheep	2703444
Spring Gulch	3587	12/16	2/28	52,500	814	Sheep	2703444
Stewart Springs	20026			15,783			
Stockton Flat*	3053			9,400			
Sunrise	3590	3/15	6/15	18,000	159	Cattle	2700068
Truckee-Virginia	3054	3/1	4/15	20,200	275	Cattle	2702958
Truckee-Virginia	3054	11/1	2/28	20,200	718	Cattle	2702958

Table 3-26
Livestock Grazing in the Planning Area—Allotment Details

Allotment Name	Allotment Number	Period Begin Date	Period End Date	BLM Acres	AUMs	Livestock Kind	Authorization No.
Wade Valley	3593	4/16	6/15	630	60	Cattle	2703510
Wedekind*	3056			230			
Wheeler Flat	3598	11/1	2/28	10,900	693	Cattle	2703708
White Cloud	3057	10/1	2/28	77,200	571	Cattle	2703056
White Cloud	3057	4/1	9/30	77,200	1,197	Cattle	2703056
White Cloud	3057	3/1	3/31	77,200	117	Cattle	2703056
White Hills	3058	4/1	10/31	25,300	1,119	Cattle	2703385
White Hills	3058	4/1	10/31	25,300	84	Cattle	2703065
Wilson Canyon	3600	10/1	2/28	3,200	159	Sheep	2703444
Winnemucca Ranch	3059	6/10	10/15	44,500	944	Cattle	2703487
Winnemucca Ranch	3059	5/20	5/31	44,500	258	Cattle	2703487
Winnemucca Ranch	3059	6/10	10/15	44,500	1,548	Cattle	2703487
Winnemucca Ranch	3059	6/1	6/9	44,500	175	Cattle	2703487
Winnemucca Ranch	3059	6/1	10/31	44,500	305	Cattle	2703487
Winter's Ranch*				1,000			

*No active grazing permit

**GIS data not available

Grazing within the planning area occurs throughout the year, with much of the use concentrated during winter and spring months. Summer use allotments are commonly found at higher elevations, while winter use allotments are primarily located in lower elevations associated with an arid climate. The elevation and ecological site present on any given allotment plays a significant role in determining the grazing season and system most appropriate for that allotment. Higher-elevation sites are often more able to provide for summer grazing, while lower-elevation sites are often well suited for winter grazing.

All grazing permits include terms and conditions for management of the allotment. In some cases, AMPs have been developed that include details about the location, amount, and timing of permitted grazing use and that incorporate allotment-specific planned grazing systems.

Permittees paid to use 99,251 AUMs of livestock forage in 2011. Over the past 5 years, billed use has averaged 66,170 AUMs, or 42.2 percent of total permitted use. This difference can be attributed to a number of variables. Seasonal variations in precipitation and temperature result in more or less available forage from one year to the next. Drought conditions have required a reduction in grazing use in order to maintain good range conditions. Permittees may also opt for voluntary nonuse for a variety of reasons, resulting in AUMs that are available but not used. Some permitted AUMs are in suspension due to problems with the base property or other issues, and are not available for use. In addition, grazing is typically deferred in an area for 2 years following some land treatments and fire rehabilitation projects, accounting for lower use levels.

Most allotments in the planning area contain portions that are only slightly used or not used at all by livestock due to topography, distance from water, limitations caused by natural barriers, or for other reasons. Rangeland improvement projects, water developments in particular, have been implemented within the planning area to better distribute livestock grazing.

As part of implementing the 2007 RAC Standards and Guidelines for Rangeland Health for the Sierra Front-Northwestern Great Basin Area, BLM employees conducted land health assessments in 38 allotments containing 2,113,771 acres across the CCD between 2003 and 2012 during which they assessed the current condition of the vegetation and overall land health. The results of the assessments are discussed in **Section 3.2.3**, Water Resources, **Section 3.2.4**, Vegetation, and **Section 3.2.6**, Special Status Species.

Resource Changes

Anticipated demand for livestock grazing on BLM-administered lands is expected to continue into the future. There is interest in acquiring grazing permits as they become available. In addition, due to the proximity to expanding urban areas, some grazing areas may lose available acreage. This loss ensures the demand for the areas that will remain open to livestock grazing.

Due to the increased interaction of livestock grazing and other land uses as urban areas expand, education is becoming increasingly important so that land users can understand and respect each other's use. Allotments that have small, noncontiguous blocks of BLM-administered land intermixed with private land have often provided management problems in the past. In addition, problems are often associated with BLM grazing allotments adjacent to developed areas (urban-interface), including vandalism and theft on infrastructure such as troughs, pumps, and fence posts.

Vegetative communities and livestock interactions with the vegetative component are continually becoming better understood, and dynamics are also changing as the vegetation in the planning area undergoes transitions. These ongoing changes require that grazing systems remain responsive to the ecological capability and requirements.

It is also important to recognize and acknowledge the grazed areas that have improved in ecological integrity under the implementation of a well-suited management plan. Options for use of grazing for vegetation management include prescriptive grazing for invasive species reduction, which may be viable in some areas of the CCD.

3.3.3 Geology and Minerals (Locatable, Salable, and Leasable)

Current Conditions

Physiography

The majority of the planning area is within the Basin and Range physiographic province, with the western portion within the Sierra Nevada region of the Sierra-Cascade-Coast Mountain physiographic province (Lobeck 1975). A physiographic province is a broad-scale land subdivision, based on terrain texture, rock type, geologic structure, and geologic history. The two provinces are separated by the Walker Lane, a north-northwest trending depression approximately 30 to 40 miles wide and extending approximately 500 miles from south-central Oregon to the latitude of the Garlock Fault-Las Vegas area. The Walker Lane is composed of strike-slip faulting with diverse orientations of mountain ranges and faults, and contains Pyramid and Walker Lakes. The Walker Lane structural zone contains irregular topography and represents a transition zone between the northwest-moving Sierra Nevada Block to the west, and the east-west extending Basin and Range province to the east.

The mountain ranges within the planning area do not trend in a uniform direction. The Sierra Nevada Range that extends along the western margin of the CCD is an approximately 400-mile-long fault block structure that trends in a northwesterly direction. The range was uplifted during the Pliocene Epoch and is tilted up on the east with a steep east-facing scarp that rises above the Great Basin along the Sierra-Nevada Fault System. It has a long west-facing slope that descends gradually to the Great Valley in California. The Carson Range, which lies almost entirely within the planning area on National Forest System lands, and much of the eastern portion of the planning area trend in a general north-south orientation. Lake Tahoe, the largest freshwater lake in California, fills a graben between the Carson Range and the Sierra-Nevada Range, to an elevation of over 6,000 feet. The highest elevation in the Carson Range is Mount Rose, at 10,778 feet.

The Basin and Range physiographic province roughly corresponds in proximity to the Great Basin, which is a contiguous watershed region between the Sierra Nevada Mountains and the Rocky Mountains that has no natural outlet to the sea. Extensional tectonic forces in the Earth's crust within the Great Basin are responsible for moving Reno away from Salt Lake City at the rate of a couple inches a year. These same forces have resulted in the present-day landscape of alternating mountain ranges and deep, sediment-filled basins, which characterize the eastern portion of the planning area. Elevations within the planning area range from 3,796 feet at Pyramid Lake, 40 miles northeast of Reno, to 11,236 feet on Mount Grant in the Wassuk Range, approximately 8 miles northwest of Hawthorne. The principal drainages in the planning area, from north to south, are the Truckee River, which flows from Lake Tahoe to Pyramid Lake; the Carson River, which heads in the Sierras south of Lake Tahoe and drains

northward past Carson City and ultimately to the Carson Desert; and the West Walker and East Walker Rivers, which head in the Sierra and converge in Mason Valley south of Yerington in Lyon County. Both rivers ultimately discharge to Walker Lake in Mineral County. Despite being terminal lakes, both Pyramid Lake and Walker Lake are fresh enough to support trout and other fish, although their salinity has increased measurably in recent years, partly as a result of reduced inflows. The Carson Desert contains numerous saline lakes, alkali flats, and saline marshes.

During the late Pleistocene (0.01 to 1.8 Ma [megaannum; equal to 1 million years]), an extensive portion of the Great Basin was occupied by several large pluvial lake systems. One of the largest pluvial lakes in the Great Basin was ancient Lake Lahontan, which covered much of the planning area in northwestern Nevada and extended into northeastern California and southern Oregon. At its high stand about 15,000 years ago, the lake climbed to an elevation of 4,380 feet above mean sea level and covered a surface area of more than 8,500 square miles (USGS 2004). At that time, the maximum lake depth is estimated to have been about 900 feet at present-day Pyramid Lake in the north end of the planning area. During the late Pleistocene, Lake Lahontan was subjected to a series of deep-lake fluctuations, which caused wave action that carved shorelines, terraces, and caves into the surrounding topography.

Geologic Overview

The oldest rocks in the planning area are Precambrian (greater than 540 Ma) schists. Paleozoic (250 to 540 Ma) rocks are present in areas, but Mesozoic-age (65 to 250 Ma) rocks comprise the most extensive pre-Tertiary (greater than 65 Ma) outcrops exposed within the planning area. Mesozoic rocks in the planning area consist of Triassic (201 to 250 Ma) and Jurassic (145 to 201 Ma) metasedimentary and metavolcanic rocks and Jurassic and Cretaceous (65 to 145 Ma) granitic rocks. Over much of the planning area, these Mesozoic granitic and metamorphic rocks are overlain by an extensive sequence of Cenozoic (younger than 65 Ma) volcanic and interbedded sedimentary rocks. **Table 3-27, Lithologic Units within the Planning Area**, provides detailed descriptions of the geologic composition of each map unit in the planning area. All of these rocks have been exposed to extensive folding and faulting from the development of the Western Cordillera. The Western Cordillera extends from Alaska to Mexico and can be summarized as a series of mountain-building periods due to accreted terrains interlaced with periods of sedimentation. The Western Cordillera is most recently marked by a failed rift zone. The result of the formation and deformation of the Western Cordillera sequence is the Basin and Range ecoregion that is characteristic to Nevada.

Within the complex geology of the CCD, zones of crustal weakness are important targets for precious metal exploration because they represent major conduits for the hydrothermal activity associated with ore deposit formation.

Table 3-27
Lithologic Units within the Planning Area

Map Symbol	Age	Lithotypes and Formation Names	Lithology
Qa	Quaternary	Alluvial deposits; locally includes beach and sand dune deposits	Alluvium; mass wasting; dune sand; lake or marine deposit (nonglacial)
Qls	Quaternary	Landslide deposits	Landslide; colluvium; sedimentary rock
Qm	Quaternary	Moraine deposits	Glacial drift
Qp	Quaternary	Playa, marsh, and alluvial-flat deposits, locally eroded	Playa; alluvium
QTs	Pliocene to Quaternary	Sedimentary rocks; mostly lake deposits	Lake or marine deposit (nonglacial); sedimentary rock
QTa	Miocene to Quaternary	Intrusive rocks of mafic and intermediate composition	Andesite; rhyodacite; basalt; sedimentary rock
QTb	Miocene to Quaternary	Basalt flows; locally includes maar deposits	Basalt; andesite; trachybasalt; latite; andesite
QToa	Miocene to Quaternary	Older alluvial deposits	Alluvium; lake or marine deposit (nonglacial)
Tba	Early Miocene to Early Pliocene	Andesite and basalt flows; mostly ranging from about 17 to about 6 Ma; may locally include rocks younger than 6 Ma	Basalt; andesite; shoshonite
Tr3	Middle Miocene to Late Miocene	Rhyolitic flows and shallow intrusive rocks	Rhyolite; dacite; trachyte
Tr2	Early Oligocene to Early Miocene	Rhyolitic flows and shallow intrusive rocks	Rhyolite; dacite; trachyte
Tri	Eocene to Miocene	Rhyolitic intrusive rocks	Granitoid
Tmi	Eocene to Miocene	Intrusive rocks of mafic and intermediate composition	Diorite; monzodiorite; quartz diorite; quartz monzogabbro; tonalite; gabbros
Ta3	Late Miocene to Middle Miocene	Andesite and related rocks of intermediate composition; flows and breccias	Andesite; latite; trachyte; dacite
Ts3	Late Eocene to Late Miocene	Tuffaceous sedimentary rocks; locally includes minor amounts of tuff	Sandstone; limestone; siltstone; conglomerate; mudstone; dolostone (dolomite); felsic volcanic rock; intermediate volcanic rock; mafic volcanic rock; tuff
Tt3	Middle to late Miocene	Welded and nonwelded silicic ash-flow tuffs; locally includes thin units of air-fall tuff and sedimentary rock	Rhyolite
Trt	Middle to Late Miocene	Ash-flow tuffs, rhyolitic flows, and shallow intrusive rocks	Rhyolite

Table 3-27
Lithologic Units within the Planning Area

Map Symbol	Age	Lithotypes and Formation Names	Lithology
Ta2	Early Oligocene to Early Miocene	Andesite and related rocks of intermediate composition-flows and breccias	Andesite, trachyte, dacite
Tt2	Early Oligocene to Early Miocene	Welded and nonwelded silicic ash-flow tuffs; locally includes thin unites of air-fall tuff and sedimentary rock	Rhyolite; dacite; trachyte
Ts2	Early Oligocene to Early Miocene	Tuffaceous sedimentary rocks; locally includes minor amounts of tuff	Sandstone; siltstone; limestone; conglomerate; mudstone; debris flow; landslide; tuff
Tr1	Middle to Late Eocene	Rhyolitic flows and shallow intrusive rocks	Rhyolite
Tgr	Paleocene to Late Miocene	Granitic rocks; mostly quartz monzonite and granodiorite	Granodiorite; quartz monzonite; granite; monzonite
Tjgr	Jurassic to Miocene	Granitic rocks, mostly quartz monzonite and granodiorite; inconclusively dated or not dated isotopically	Quartz monzonite; granodiorite; granite; peraluminous granite
Kgr	Cretaceous	This unit is grouped with NVMzgr in the literature; the two units are the same types of rocks but those included in this unit have their ages confirmed by radiometric dating. Granodiorite is dominant over quartz monzonite in northern Nevada while the opposite is true in southern Nevada	Quartz monzonite; granodiorite; granite; monzonite; quartz diorite; peraluminous granite
MZgr	Jurassic to Cretaceous	Granitic rocks, western Nevada (Mesozoic); mostly quartz monzonite and granodiorite; inconclusively dated or not dated isotopically	Granodiorite; quartz monzonite; granite; quartz diorite; gabbro
Kjd	Jurassic to Cretaceous	This unit includes both nonquartz and quartz diorite; nonquartz diorite appears more widespread though both are almost equally represented.	Diorite; quartz diorite; gabbro; granite; granodiorite; serpentine
JPu	Permian to Jurassic	Volcanogenic sedentary rocks, tuff, andesite and felsic flows, and carbonate rocks; age uncertain; Mineral, Esmeralda, and northwest Nye Counties	Greenstone; sandstone; volcanic rocks (aphanitic); limestone; siltstone; conglomerate

Table 3-27
Lithologic Units within the Planning Area

Map Symbol	Age	Lithotypes and Formation Names	Lithology
Jgb	Lower to Middle Jurassic	Gabbroic Complex; gabbro, basalt, and synorogenic quartz sandstone	Gabbro, basalt, quartz sandstone
Jgr	Jurassic	Granitic rocks; mostly quartz monzonite and granodiorite	Quartz monzonite; granodiorite; granite; monzonite; quartz diorite; peraluminous granite
Jd	Early Jurassic to Middle Jurassic	Dunlap Formation; conglomerate, sandstone, greenstone, felsite, and tuff; locally contemporaneous with folding and thrusting; Mineral County and adjacent parts of Esmeralda and Nye Counties	Sandstone; conglomerate; volcanic rock (aphanitic); limestone; siltstone; shale
JTRsv	Late Triassic to Early Cretaceous	Shale, sandstone, volcanogenic clastic rocks, andesite, rhyolite, and locally thick carbonate units	Rhyolite; andesite; dacite; trachyte; argillite; shale; sandstone; siltstone; carbonate; basalt
Trc	Triassic	Limestone, minor amounts of dolomite, shale, and sandstone; locally thick conglomerate units; includes Tobin, Dixie Valley, Favret, Augusta Mountain, and Cane Spring formations and Star Peak Group	Limestone; dolostone (dolomite); shale; sandstone; conglomerate; siltstone; andesite; chert
JTRs	Late Triassic to Early Jurassic	Includes Auld Lang Syne Group, Nightingale sequence of Raspberry, Winnemucca, Grass Valley, Dun Glen, and Osobb formations	Claystone; shale; sandstone; siltstone; carbonate; volcanic rock (aphanitic); conglomerate
TRPvs	Permian to Triassic	Happy Creek volcanic series composition is mostly andesitic with some basalts; sedimentary rocks are associated with volcanic rocks of certain areas: the limestone and conglomerate with rocks of Washoe County, sandstone, conglomerate and calcareous rocks with the Dunlap, and the greywacke and sandstone with the Happy Creek volcanic series	Andesite; basalt; dacite; greywacke; sandstone; shale; chert; limestone; conglomerate

Table 3-27
Lithologic Units within the Planning Area

Map Symbol	Age	Lithotypes and Formation Names	Lithology
TRk	Permian to Early Triassic	Koipato Group and related rocks; altered andesitic flows, rhyolitic tuffs and flows, and clastic rocks; includes rocks mapped by Siberling (1995) as Pablo formation and originally considered to be Permian in the Shoshone Mountains, Nye County; also includes Tallman Fanglomerate (Permian?) in Humboldt County	Rhyolite; andesite; clastic; basalt
TRPd	Early Permian to Early Triassic	Conglomerate, sandstone, shale, and dolomite of the Diablo Formation below and shale, sandstone, and conglomerate of Candelaria Formation above; Mineral, Esmeralda, and northwestern Nye Counties	Shale; siltstone; sandstone; dolostone (dolomite); limestone; conglomerate
PZsp	Late Devonian to Early Triassic	Serpentinite; Mineral, northwestern Nye, and eastern Humboldt Counties	Serpentinite
PMh	Mississippian to Permian	Havallah Sequence of Siberling and Roberts (1962); chert, argillite, shale, greenstone, and minor amounts of siltstone, sandstone, conglomerate, and limestone; includes Schoonober Formation of Fagan (1962) and Reservation Hill Formation in southwestern Humboldt County and Havallah and Pumpnickel Formations in Pershing, Lander, and parts of Humboldt Counties; also includes rocks originally considered a part of the Pablo and Excelsior Formations in northern Nye, northern Esmeralda, and southern Mineral Counties	Shale; metavolcanic rock; chert; siltstone; sandstone; conglomerate; limestone

Table 3-27
Lithologic Units within the Planning Area

Map Symbol	Age	Lithotypes and Formation Names	Lithology
OSv	Ordovician to Devonian	Siliceous and volcanic rocks; chert, shale, quartzite; greenstone; and minor amounts of limestone; includes units such as Valmy Formation of north-central Nevada and some rocks mapped as Palmetto Formation in northern part of Esmeralda County and adjacent parts of Mineral and Nye Counties; locally includes rocks of Silurian and Devonian Age	Chert; quartzite; shale; greenstone; limestone; conglomerate; siltstone; chemical sedimentary rock
CZs	Late Proterozoic to Early Cambrian	Phyllitic siltstone, quartzite, and lesser amounts of limestone and dolomite; includes Reed Dolomite; Deep Spring, Campito, Poleta, Harkless, and Saline Valley Formations; and Mule Spring Limestone	

The local and regional stresses occurring in these zones are also important in providing the mechanical ground preparation required for ore deposit emplacement. As a result, the Walker Lane structural zone is associated with the occurrence of several precious metals deposits that have been discovered within the planning area.

Geologic/Seismic Hazards

A fault is a break in earth in which one side moves in relation to the other. There are faults all over Nevada. When there are sudden and strong movements, earthquakes occur on the faults. Faults and the earthquakes occurring along them have aided the creation of the mountains and valleys in the Great Basin. Larger earthquakes typically result from greater displacement occurring along a fault. Often the earthquakes do not break the surface. However, the effects of a few large earthquake events have manifested themselves in some sizable surface ruptures. Evidence of two such large earthquakes occurring within the planning area may be observed: one at a gravel pit in Alpine County south of Genoa, California, and another more recent event that occurred in the 1950s along the east side of Fairview Peak and along Dixie Valley in Churchill County.

Nevada is the third most active state for earthquakes behind Alaska and California (Price 2004). A highly destructive earthquake of the 7.0 or greater magnitude generally occurs every 30 years in Nevada, but an earthquake of 6.0

to 7.0 magnitude occurs each decade. The planning area is situated within two active seismic regions, the Walker Lane structural zone to the west and the Central Nevada Seismic Belt to the east.

Surface ruptures with documented offsets of up to 2.5 feet occurred following a series of 1954 earthquakes (Caskey 2004). A right lateral component of movement measured along portions of the rupture zone was evidenced by stream channels being offset by as much as 3 feet. The rupture zone resulting from the 1954 earthquakes spans approximately 37 miles and extends from Highway 50 and into the Carson Sink.

Minerals Overview

The presence and distribution of minerals is largely controlled by the associated geology. Indicators for a particular commodity include known occurrences and deposits; mineral potential reports from various industries and government and academic agencies; and geologic factors derived from studies of controlling fault structures, hydrothermal alteration of rocks, geochemical surveys, satellite imagery, and geophysical surveys.

BLM-administered lands within the planning area are known to contain several areas of moderate to high mineral resource potential. The BLM Nevada State Office adjudicates mining claims and mineral leasing associated with the federal mineral estate within the planning area. The majority of the federal mineral estate within the planning area underlies federal lands managed by the BLM, Bureau of Reclamation, or Forest Service. There is a very limited amount of split estate in the planning area where private surface/federal minerals or federal surface/private minerals exist. These limited areas of split estate are primarily associated with town lot patents in the Virginia City and Gold Hill townsites of Storey County, Nevada, which were patented without the underlying mineral estate.

Mineral resources are discussed in three separate subsections: leasable minerals (solid and fluid), locatable minerals, and mineral materials or salable minerals. Within the planning area fluid leasable minerals include oil and gas, and geothermal resources. Non-fluid leasable minerals include phosphate, sodium, sulfur, and potash/potassium compounds. Locatable minerals are divided into metallic and industrial minerals. Metallic minerals found in the planning area include gold, copper, silver, molybdenum, tungsten, iron, and uranium. A number of industrial minerals are found in the planning area, including diatomaceous earth, fluorspar, gypsum, and barite. Salable minerals in the planning area consist of sand and gravel, aggregates, dimension stone, cinders, clay, pumice, and pumicite.

The BLM regulates surface-disturbing activities associated with exploration and development of mineral resources on BLM-administered land in the planning area. The BLM permits mineral exploration, development, and production on

BLM-administered lands through three programs: Salable Minerals, Leasable Minerals, and Locatable Minerals.

Salable minerals are commonly referred to as sand and gravel, aggregates, or mineral materials and consist of common varieties of sand, stone, gravel, cinders, clay, pumice, and pumicite, as described under the Materials Act of 1947 and the Surface Resources Act of 1955. The BLM manages salable mineral disposals on BLM-administered land under sale contracts or free use permits. At present there are more than 260 authorized salable minerals contracts/permits issued from BLM-administered land within the planning area.

Leasable minerals have been subdivided into two classes, solid and fluid. Solid leasables include phosphate, coal, oil shale, sodium, and nitrate. Fluid leasables include oil and gas and geothermal resources. The exclusive right to explore, develop, and/or produce leasable minerals from the planning area is secured through obtaining a lease from the BLM Nevada State Office. There are no active solid mineral leases within the planning area. There are less than 30 active oil and gas leases within the planning area, but only a limited amount of exploration and no production has occurred in association with any of these leases. The bulk of the fluid mineral exploration and development within the planning area is related to geothermal.

Locatable minerals contain all minerals not identified as a salable or leasable mineral as described under the General Mining Law (Mining Law) of 1872, as amended. Locatable minerals are obtained through the staking of mining claims and include both metallic and nonmetallic (industrial) minerals. Some metallic minerals found in the planning area include gold, copper, silver, molybdenum, tungsten, iron, and uranium, and some industrial minerals include diatomaceous earth, fluorspar, gypsum, and barite. It is very difficult to prepare a complete list of locatable minerals because the history of the law has resulted in a definition of minerals that includes economics, and by statute, certain minerals have been excluded from the operation of the General Mining Law.

The BLM regulates the development of locatable minerals through the permitting and approval of exploration and mining Plans of Operation. Small areas of disturbance (less than 5 acres each) associated with exploration may be acknowledged through a simple notification process. Presently within the planning area there are 24 authorized exploration or mining Plans of Operation (required for any mining of locatable minerals or locatable mineral exploration causing surface disturbance of more than 5 acres) and 37 authorized exploration Notices (required for locatable mineral exploration surface disturbance of less than 5 acres).

Salable Minerals

Salable mineral disposals from BLM-administered land are administered by the CCD under sale contracts or free use permits. The vast majority of these contracts/permits are associated with the sale or free use of small amounts of

material that are used for nearby road jobs or construction projects in rural areas. In contrast, there are three large contracts that have been issued to operators within the urban interfaces of Reno, Carson City, and Douglas County. These contracts have been issued on a competitive basis for the purchase and use of larger amounts of material from BLM-administered land within the planning area. They supply more material annually than all of the other contracts/permits combined. The general information associated with these larger Competitive Sale contracts in the planning area are listed in **Table 3-28**, Active Competitive Sale Contracts and Acres .

Table 3-28
Active Competitive Sale Contracts and Acres in the Planning Area

Operator	Serial Number	Date Issued	Term (Years)	Pit/Quarry Name	Location			Acres	Contracted Tons
					Township	Range	Section		
Cinderlite Rock	NVN 077480	9/30/2005	10	Goni Pit Expansion	16N	20E	28 & 29	28.2	2,000,000
Pyramid Materials Inc.	NVN 085679	7/12/2010	10	Tracy	20N	22N	22	520	1,500,000
Martin Marietta Materials	NVN 087320	9/27/2009	10	Spanish Springs	21N	20N	15	178.29	1,005,520

Leasable Minerals (excluding Geothermal)

Depositional environments that would be conducive to the formation of economic coal resources have not been identified within the planning area. As such, there are no coal mine operations within the planning area. No known economic deposits of phosphate, oil shale, sodium, or nitrate are known to occur within the planning area. Likewise, no economic supplies of oil and gas are known to exist within the planning area. New technology such as hydraulic fracturing may result in additional oil and gas exploration and eventual production within the planning area; however, there is no data available regarding the amount of oil and gas potential based on new technology.

Geothermal

As of February 2013, there were 148 geothermal leases totaling approximately 299,195 acres in the planning area (BLM 2013f). Power production is occurring in 7 areas totaling approximately 238 megawatts. These areas include Steamboat Hills near Reno; Dixie Valley; Wabuska near Yerington; and Soda Lake, Stillwater, Patua/Hazen area, and Salt Wells near Fallon. Additionally, Southern Gabbs Valley and Northern Edwards Creek Valley have active exploration projects with proposed future energy production. Additional areas that have active geothermal leases but minimal or no exploration include Rhodes Salt Marsh near Mina, Winnemucca Ranch, and the Honey Lake areas north of Reno. **Figure 3-12**, Geothermal Leasing, shows the current geothermal leases within the planning area as of January 18, 2012. Geothermal plants that produce electricity are also shown.

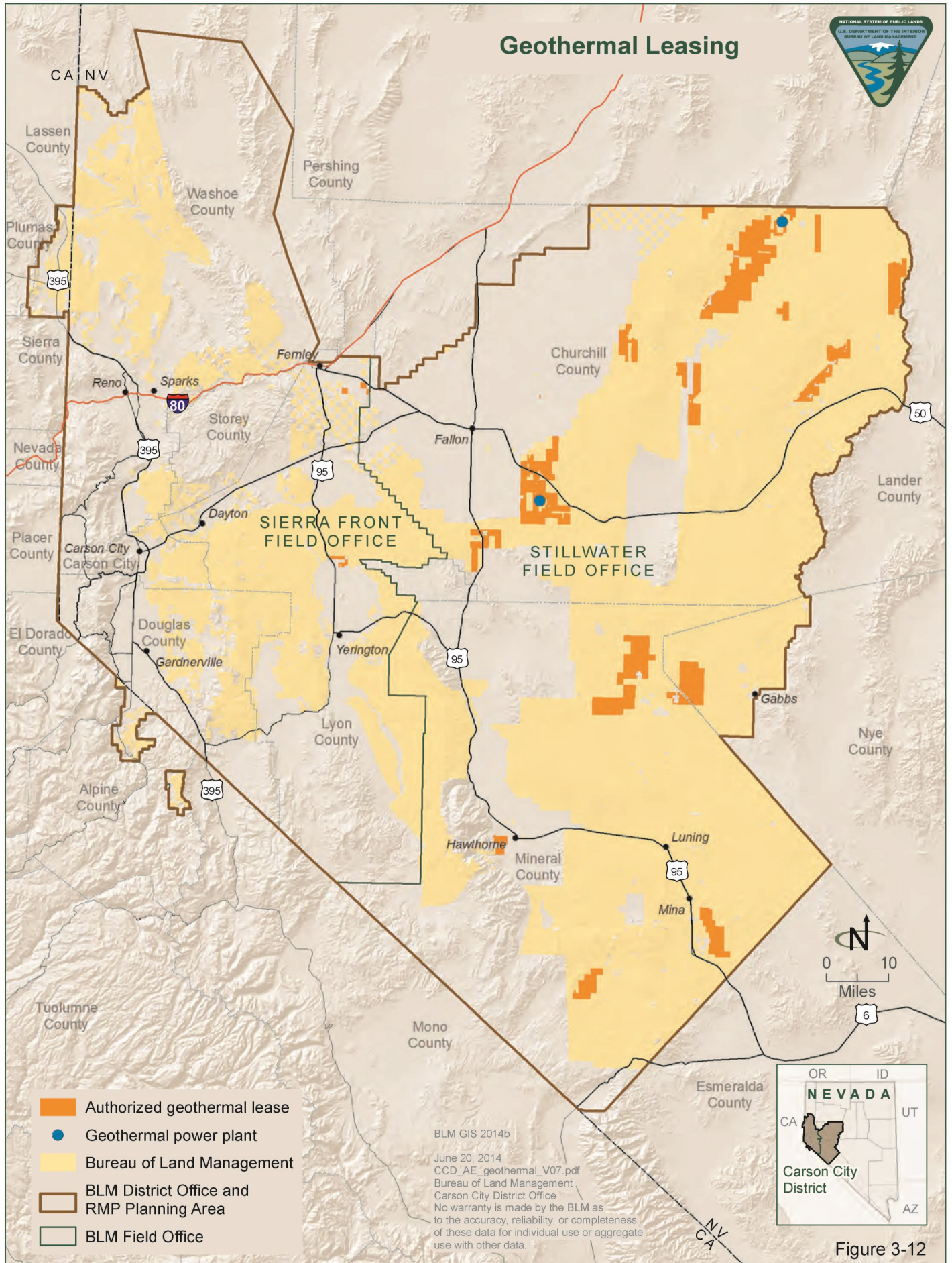


Figure 3-12

As of January 18, 2012, a majority of high-interest geothermal areas have authorized leases. Substantial exploration and development projects are now in progress in at least five areas, including Dixie Valley, Edwards Creek Valley, Gabbs Valley, Soda Lake, and Salt Wells. Additionally, future projects have been proposed for the Stillwater area (i.e., west Stillwater Range).

Locatable Minerals

Metallic Minerals. Economic metaliferous deposits are generally considered to be locatable minerals under the Mining Law. Metallic mineral commodities produced in the planning area include gold, silver, copper, iron, tungsten, lead, and zinc. Nevada is a major producer of precious metals and is currently ranked as the third or fourth largest gold-producing region in the world in terms of its annual production (USGS 2012b). Nevada is the largest gold producing state in the US; gold production accounted for 72 percent, or 5.3 million ounces, of the gold produced domestically in 2010. Most of the gold in Nevada is produced from the major gold belts of north-central Nevada (USGS 2012b). Gold and silver deposits in the planning area are found primarily in association with Tertiary rocks.

Vein deposits or “Bonanza Veins” containing silver and gold were the most important type of deposits discovered and exploited in Nevada from the 1850s to the early 1900s, as they accounted for almost all the precious metal production. A small amount of gold was also produced from placer deposits located near some of the old high-grade mines. In the early 1970s, after the central role of gold in world currency systems ended, the dollar and gold floated, and in January 1980 the gold price briefly hit a record of \$850 per ounce before retreating but ultimately averaging over \$600 per ounce that year (COMEX 1980). Following this event, several mining companies began exploring extensively in the planning area near the old high-grade mines. The emphasis of exploration at that time had shifted to finding and developing large, low-grade deposits, which became economical using cyanide heap leach methods for gold and silver recovery. Exploitation of these large low-grade precious metal deposits peaked within the planning area in the mid-1990s, when the price of gold began to decline steadily. Many precious metal mines that were active at that time are listed in **Table 3-29**, Active Plans of Operation . Most of these operations are currently in closure. The Rawhide Mine in Mineral County is the only major producer of precious metals currently operating in the planning area. Reported production from the Rawhide Mine in 2010 was 20,159 ounces of gold and 342,382 ounces of silver (Nevada Division of Minerals 2011). Mesozoic contact metamorphic rocks were a major source of base metals, including copper, iron, and tungsten. Copper deposits, many with associated precious metals values, were exploited in several areas within the planning area during the first decades following 1900. One area near Yerington produced copper into the late 1920s, and again between the mid-1950s and the mid-1970s. At

Table 3-29
Active Plans of Operation in the planning area

Serial Number	Type	Commodity	Operator	Date Authorized	Operation	Township	Range	Section(s)	Acres
NVN 069118	Mining	Gold	Barrick Mining Co.	4/18/1985	Giroux Valley	8N	34E	1, 3 & 24	400
						8N	35E	6	
						9N	34E	36	
						9N	35E	31	
NVN 069126	Mining	Gold	Anaconda Minerals Co. Miramar Gold Corp.	5/12/1994	Six Mile Canyon	17N	21E	23,24,26	50
NVN 069128	Mining	Gold	Candelaria Mining Co. Nerco Metals Inc.	5/29/1981	Candelaria	3N	35E	3,4	600
						4N	35E	25,26,27,32,33,34,35	
NVN 069134	Milling	Cinders	Cinderlite Rock	4/8/1997	Goni Road	15N	20E	4	13.8
NVN 069458	Mining	Gold	Barrick Mining Co.	3/10/1992	Calvada Flat	8N	35E	4,5	260
						9N	35E	28,32,33	
NVN 069458	Mining	Gold	Pruett Ranches	6/22/1993	Buckskin Mine	13N	24E	18	18
NVN 069623	Mining	Diatomite	Eagle Picher Minerals Inc.	1/14/1997	Clark Mine	20N	23E	34	120
NVN 069690	Mining	Gold	Rawhide Mining LLC	12/22/1994	Rawhide	13N	32E	4,5,6,7,8,9,10,16,17	1,000
NVN 069929	Mining	Salt	Huck Salt	11/19/2002	Fourmile Flat	16N	31E	7,11,12,13	16.5
NVN 069932	Mining	Limestone	Nevada Cement Co.	1/13/1992	Fernley	19N	25E	3,4	45
						20N	25E	32,33	
NVN 069957	Mining	Pearlite	Eagle Picher Minerals Inc.	3/15/1993	Russell Pass	16N	28E	24	24.5
						16N	29E	19	
NVN 069966	Mining	Diatomite	Celite Corp	8/19/1994	Fernley	19N	26E	8	103

Table 3-29
Active Plans of Operation in the planning area

Serial Number	Type	Commodity	Operator	Date Authorized	Operation	Township	Range	Section(s)	Acres
NVN 070004	Mining	Diatomite	Eagle Picher Minerals Inc.	11/6/1996	Hazen	19N	26E	6	6.64
NVN 070006	Mining	Gold	American Gold Capitol Inc.	2/15/1995	Talapoosa	18N	24E	2,3,10,11	120
						19N	24E	34	
NVN 070049	Mining	Gold	Custom Details, LLC	7/12/2002	Bovie Lew	13N	24E	8,17,20	10.35
NVN 070054	Mining	Clay	Nevada Bentonite Ent.	12/22/1997	Lahontan Mountains	18N	30E	24,25	65.5
						18N	31E	18,19	
NVN 075839	Mining	Pearlite	Noble Perlite	4/2/2002	Noble Perlite	16N	29E	15,16,21,22	2
NVN 083297	Mining	Gold	Geo-Nevada Inc.	1/20/2011	Spring Valley	16N	21E	20,21,28	27.2
NVN 084570	Expl.	Copper	Entree Gold Us Inc.	3/2/2010	Ann Mason	13N	24E	10,11,13,14,15,16, 23,24	14.22
NVN 084610	Expl.	Gold	Bonaventure NV Inc.	11/17/2009	New Pass	20N	40E	6	9.32
						21N	40E	31	
NVN 085212	Expl.	Copper	Quaterra Alaska Inc.	11/20/2009	Macarthur Pit	14N	24E	24,25,26	43.34
						14N	25E	19,30	
NVN 085589	Mining	Gold	TNT Ventures LLC	2/17/2010	Mason Pass	14N	25E	18,19	4.4
NVN 086260	Mining	Pozzolan	NV Cement Co.	3/1/2011	NV Cement Co.	20N	24E	28	25.9

present copper may be making a comeback, as several new operators are currently exploring for copper in the Yerington area. Iron and tungsten were also produced historically in the planning area. Several tungsten mines within the planning area generated small to moderate production during periods of high tungsten prices, mainly during World Wars I and II and during the Korean War. A limited amount of iron was also produced within the planning area during that time. Presently, iron and tungsten are less sought after in the planning area due to increasing global competition for those commodities in the base metals markets.

Non Metallic (Industrial) Minerals. Nonmetallic (industrial) minerals produced in the planning area include salt, borates, gypsum, fluorite, clay, zeolite, limestone, and diatomite (diatomaceous earth). In the planning area, nonmetallic minerals activity began in the early 1860s with the exploitation of salt deposits from playa lakes at various locations in Churchill and Mineral Counties. One operator in the planning area continues to produce salt from brines occurring on BLM-administered lands in the Four Mile Flat area of Churchill County. Borate minerals were later discovered at similar locations in Churchill and Mineral Counties, and small amounts of borax were produced. However, no borate production is occurring currently within the planning area. Gypsum has been produced from three localities within the planning area and continues to be produced from one deposit at Moundhouse in Lyon County. No gypsum is actively being produced from BLM-administered land within the planning area. Fluorite has been produced from two locations, but there has been no production of fluorspar since 1957. Small deposits of clay have been mined at several locations within the planning area, and some intermittent clay and zeolite mining still occurs in the Lahontan Valley of Churchill County, Nevada.

Industrial mineral resources such as limestone and diatomite are actively being mined on a large scale within the planning area. Diatomite is mined east of Reno near Clark Station in Storey County, and from deposits near Hazen, in Churchill County. Limestone is mined from one location in Lyon County southeast of Fernley, and is used to manufacture cement at the cement plant in Fernley. While industrial minerals such as diatomite, limestone, and gypsum are being mined within the planning area, no production data for these minerals has been reported (NDOM 2011).

Key Features

BLM-administered lands within the planning area are known to contain several areas of moderate to high mineral resource potential.

Salable mineral (e.g., sand and gravel and crushed stone) potential is widespread throughout the planning area. The greatest potential is in the alluvial-covered areas along the lower flanks of the mountain ranges within the planning area, as well on alluvium deposited by the Truckee, Walker, and Carson Rivers and their tributaries. Terrace sand and gravel deposits left along the various levels of

ancient Lake Lahontan are also exploited as a sand and gravel resource. Because of their low unit value, sand and gravel deposits are generally not transported long distances, however sand and gravel operations within the planning area will continue to be developed as close to the consuming areas as possible. The largest operations within the planning area are located close to the urban interface surrounding Reno and Carson City, while numerous smaller operations are situated adjacent to smaller towns and at regular intervals along transportation corridors.

The potential for leasable minerals (excluding geothermal) such as oil and gas, coal, uranium, and potash, are low throughout the planning area. The depositional environments that would be conducive to the formation of and economic quantities of these minerals have not been identified within the planning area. An indicator of leasable mineral potential is the number of active leases. The planning area has 29 active oil and gas leases containing 65,988 acres. The average size of these leases is 2,275 acres.

Locatable minerals, namely precious and base metals such as gold, silver, and copper, and industrial minerals such as diatomite and limestone have the highest potential for continued development within the planning area. An indicator of locatable mineral potential is the number of active mining claims. At present there are approximately 23,800 active claims within the planning area. With the average mining claim comprising approximately 20 acres, that equates to approximately 475,000 acres under claim.

Resource Changes

The US minerals sector in 2009 suffered decreased performance resulting from the widespread effects of the struggling domestic economy (USGS 2010). Although minerals contributed to the real gross domestic product at several levels, including mining, processing, and manufacturing of finished products, their contribution to the gross domestic product was less than that in 2008. Trends in other sectors of the domestic economy were reflected in mineral production and consumption rates.

Salable Minerals

Continued declines in the US housing market during 2009 were reflected in further reductions in the production and consumption of cement, clays, construction sand and gravel, crushed stone, and gypsum (commodities that are used almost exclusively in construction), and those associated with the related manufacture of goods, such as ceramic tile, paint, roofing, and wallboard, used by the housing industry. As the economy rebounds and the housing industry improves, so will the demand for industrial minerals in the planning area.

Leasable Minerals (excluding Geothermal)

Drilling for oil and gas resources within the planning area in Washoe, Lyon, Churchill, and Mineral Counties has been conducted on a limited basis since the early 1900s until present, and no economic oil or gas deposits have been found

to date. Hence, there is no reason to believe that oil and gas would constitute an economic resource within the planning area in the future. However, it is likely that oil and gas exploration will continue to occur on a limited basis as new potential targets are identified within the planning area.

Geothermal

Because there are numerous geothermal projects in the district, a large number of acres under lease, and continued interest in new projects, the CCD is expected to continue to have an active geothermal program.

In the short term, an increased emphasis on exploration and development is expected, as the known active geothermal fields are already under lease and being explored for resource potential. There is also potential for hybrid geothermal-solar plants; the Stillwater Geothermal Power Plant, which is on private land and included in a federal geothermal unit, incorporated a photovoltaic solar field in 2011, making it the first hybrid geothermal/solar power plant in the world. Hybridization includes utilization of both solar and geothermal energy facilities, as well as reheating of geothermal fluid through solar means to allow recirculation through a power plant's heat exchanger. The BLM has been approached about hybridization of an existing geothermal project on BLM-administered land, but no applications have been formally submitted.

Exploration activities usually utilize a ROW for road systems and development activities almost always necessitate a ROW for power lines. A continued, active geothermal program also forecasts an increase in road and power line ROW applications.

Locatable Minerals

Metallic Minerals

The metals industry is highly cyclical. The length and magnitude of industry cycles have varied over time and by product but generally reflect changes in macroeconomic conditions, levels of industry capacity, and availability of usable raw materials. Recent years have seen resurgence in precious and base metal exploration resulting from increasing commodities prices. The recent spike in the value of gold and silver, and copper, respectively, has resulted in a renewed interest in the exploration for these metals within the planning area. Precious metals exploration appears to be directed at redefining existing resources associated with or surrounding areas of known potential. Base metal exploration within the planning area has focused on copper resources in the area of the former Anaconda Copper Mine in Yerington, Nevada. Based on the cyclical nature of the metals industry, the potential for future development of gold and silver, or copper, within the planning area is likely to occur, contingent on an increase in demand and increasing or stable prices of those resources in the market place.

Non Metallic (Industrial) Minerals

The economic forecast for nonmetallic (industrial) minerals would be similar to that described above for salable minerals with the exception of diatomaceous earth, which is used for industrial filter applications. Such uses have been insulated from the recent downturn in the construction industry. Therefore, the production of diatomaceous earth from active operations within the planning area is anticipated to continue.

3.3.4 Recreation and Visitor Services

Federal lands within the planning area provide a broad spectrum of outdoor opportunities that afford visitors the freedom of recreational choice with minimal regulatory constraints. As a national provider of recreational opportunities, the BLM focuses on its primary niche: providing resource-based recreation and tourism opportunities. Visitor's freedom to pursue unstructured recreational opportunities is promoted, as long as they accept the responsibility to use BLM-administered lands wisely and to respect other land users. Responsible use is encouraged by the BLM and its partners through land use ethics programs such as Tread Lightly and Leave No Trace. Recreational opportunities are offered to the public on all BLM-administered lands within the planning area where legal access exists.

The BLM provides opportunities for outdoor recreation and nature-based tourism using the concept of multiple use and sustained yield management. It is one of the four primary missions of the Department of the Interior. The public values natural landscapes, the freedom to choose a particular activity to participate in, the opportunity to test personal skills in a sport or activity, time spent with family and friends, and the opportunity for discovery. Recreational activities occurring on BLM-administered lands are multifaceted and are generally considered to be non-consumptive.

Whether the visitor chooses to recreate in designated fee sites or spend time in remote areas where fees or registration is not required, the BLM relies heavily on public land users to protect the land, water, and structures so that the next person can also have a quality recreational experience. Most recreational use in the planning area occurs within dispersed, nonfee areas.

Recreation Setting Characteristics

The Recreation Setting Characteristics is a modified version of the Recreation Opportunity Spectrum (ROS) process that identifies recreation opportunities based on the area's setting and activities. BLM-administered lands in the planning area contain the full spectrum of ROS classes: Primitive, Back Country, Middle Country, Front Country, Rural, and Urban. Natural Resource Recreational Settings are indicators of the type and quality of recreational experience available in a given area.

Limits of Acceptable Change

A widely used management-monitoring technique in recreation is Limits of Acceptable Change. Limits of Acceptable Change utilizes indicators with prescriptive standards based on the recreation objectives to define acceptable limits. If the standards (acceptable limits) are exceeded the managing partners then make pre-determined management changes that will bring concerns such as: (1) visitor impacts on natural/cultural resources, (2) the physical, social and administrative natural resource recreation setting prescriptions or (3) the visitor's attainment of recreation outcomes back within acceptable standards.

Visitor Use/Demographics

Tracking visitor use and regional demographics is necessary for managing recreational use, identifying trends, projecting and prioritizing future recreation management, and identifying natural resource recreation settings, carrying capacities, and Limits of Acceptable Change. Visitor use and demographic data is collected by means of traffic counters, visitor registrations, recreation use permits, visitor surveys, and from outside sources such as the Nevada Department of Transportation, Nevada Department of Tourism, Nevada state demographer's office, and the Nevada and California Statewide Comprehensive Outdoor Recreation Plans. Annual visitor use data on BLM-administered lands is tracked through the Recreation Management Information System. Visitor and visitor use days in the planning area from 2006 through 2011 can be found in **Table 3-30, Visitor and Visitor Use Days (2006-2013) in the Planning Area.**

Table 3-30
Visitor and Visitor Use Days (2006-2013) in the Planning Area

Year	Visits	Visitor Days
2006	972,726	929,440
2007	1,010,192	948,757
2008	1,040,303	912,562
2009	972,392	863,017
2010	945,623	831,742
2011	1,007,842	840,653
2012	1,129,991	927,308
2013	1,063,080	876,310

Current Condition*Recreation Management Areas*

Currently, there are only two Recreation Management Areas, Walker Lake and Indian Creek Special Recreation Management Areas (SRMAs), that have been designated through previous land use planning actions within the planning area. The BLM also manages developed and undeveloped recreational areas consisting of trailheads, campgrounds, interpretive sites, and fishing/floating access sites. Some of the trailheads are day-use only, while others allow camping. Several of

the trailheads provide access to both BLM-administered land and National Forest System land (trails are discussed further in **Section 3.3.5**, Comprehensive Travel and Transportation Management). There are two Recreation Use Permit fee campgrounds and one Individual Special Recreation Permit (SRP) site. The recreation sites provide excellent opportunities for activities such as camping, hiking, backpacking, horseback riding, wildlife viewing, sightseeing, OHV touring, fishing, hunting, and river floating.

The following are recognized as important recreation areas by activity-based planning efforts, significant user demand, and/or through the Federal Register process. These areas are being evaluated for potential designation as SRMAs or Extensive Recreation Management Areas (ERMAs) during the planning process.

Ambrose Natural Area

The Ambrose Carson River Natural Area is located along the east side of Carson City along the banks of the Carson River. Facilities at this passive recreation site consist of a parking area and trail system that is jointly managed by the BLM and Carson City. It is anticipated that this site will be transferred to Carson City in accordance with the 2009 Omnibus Public Lands Management Act.

Faye-Luther Trail

The Faye-Luther Trail provides the only public trail access from the Carson Valley into the higher elevations of the Carson Range of the Sierra Nevada Mountains. The trail system is a joint effort of the Humboldt-Toiyabe National Forest-Carson Ranger District, the Sierra Front Field Office, the American Land Conservancy, and the Carson Valley Trails Association. The 5-mile-long Faye-Luther Trail provides majestic views of Job's Peak to the northwest and the Pine Nut Mountains to the east of Carson Valley. The nonmotorized trail is open for dog-walking, hiking, horseback riding, and mountain biking during the dry season and is popular for cross-country skiing and snowshoeing in winter. The area is closed to overnight camping.

Fort Churchill to Wellington Back Country Byway

This byway is a 6-mile gravel surface road that provides a scenic drive through the foothills of the Pine Nut Mountains. The Back Country Byway also travels along the Carson River from Fort Churchill. Additional discussion can be found in **Section 3.4.2**, Back Country Byways. Sections of the road are maintained infrequently and are prone to washouts. High-clearance four-wheel-drive vehicles are recommended for travel on this route.

Hungry Valley Recreation Area

Located north of Reno, the approximately 27,400-acre Hungry Valley Recreation Area is a popular OHV riding area for OHVs, motorcycles, and rock crawlers. The area attracts both community- and destination-based visitors from the Reno area and central California. Recreation opportunities are varied, but

the dominant activities include camping, general use target shooting, and intensive OHV and equestrian use.

Jumbo Grade/Virginia City

Located east of Washoe Lake, in the Virginia City National Historic Landmark, the Jumbo Grade and Virginia City areas attract both community- and destination-based recreation users. Recreation opportunities are varied, but the dominant activities include OHV use, hiking, horseback riding, and intensive OHV play near the Jumbo Grade OHV trailhead.

Lemmon Valley Motocross Area

Located north of Reno, the 192-acre Stead Motocross site has been set aside specifically for Moto-cross use. There is no legal public access to this area, rather the public has to cross Stead Airport Authority lands. The difficulty in adequately managing the ongoing use and maintenance of this type of recreation site may pose potential public health and safety and BLM liability issues. Typically the course structures, constructed and maintained by the public with heavy equipment, include earthen jumps or ramps and banked turns designed with no known industry standards. Moreover, there are no partners or user groups under agreement with the BLM to manage or maintain the site. This site is designated open to OHV use.

Pah Rah Hills

Located east of Sparks, the Pah Rah Hills area is a popular mountain bike riding area. The area attracts primarily community-based visitors; however, it also has a high potential to attract destination-based mountain bike use in the future if the activity is managed and promoted. Recreation opportunities include mountain biking, hiking, general use target shooting, and hunting.

Petersen Mountain Natural Area

The Petersen Mountain Natural Area is a 9,963-acre tract of high desert located along the California and Nevada state line north of Reno and southwest of Pyramid Lake. The area is managed for semi-primitive nonmotorized recreation, including hiking, biking, and equestrian use. There is a trailhead and parking /staging lot on the east side of the area. In September of 1988, 5,120 acres of the area was closed to motorized use (Federal Register Notice Vol. 53, No. 179). The Consolidated RMP recommended that this site be designated as the Petersen Ridge "Recreation Lands"; however, at the time of designation, it was determined that recreation lands was no longer a valid designation so the name was changed to the Petersen Mountain Natural Area through Federal Register Notice Vol. 49, No. 213 in November 1984.

Prison Hill Recreation Area

Visible throughout Carson City, the approximately 2,450-acre Prison Hill Recreation Area has been set aside and dedicated as open space for the community of Carson City and the general public. This popular open space is available for hiking, mountain biking, horseback riding, OHV use (south end

only), technical rock climbing, nature photography, and experiencing views of the Carson Range and Pine Nut Mountains. Prison Hill is on the southeast side of town and has three main community parking areas. This area will be transferred to Carson City. (See note under Silver Saddle Ranch paragraph, below.)

Sand Mountain Recreation Area

Sand Mountain Recreation Area is 25 miles east of Fallon along Highway 50 in Churchill County. The recreation area consists of approximately 4,700 acres of BLM-administered lands managed primarily for off-highway vehicle use and sensitive species habitat. The area provides a mix of open riding on the 600-foot-high by 1.5-mile by 2-mile wide dune complex and approximately 17 miles of designated trails. Camping is allowed in a primitive camp area for RV and tents with services limited to a fee booth, six vault toilets, and refuse containers. Approximately 1,280 acres are designated as open to OHV travel, 1,500 areas are designated as limited to designated trails, and 1,918 acres are closed to OHV travel. Due to the scarce resource of open sand dunes in the west, Sand Mountain draws recreational users from adjacent states, including California, Oregon, Idaho, and Utah. The area is managed as a recreation fee site area and was designated as a recreation area in March of 1986 through a Federal Register Notice.

Sand Springs Desert Study Area

The Sand Springs Desert Study Area is a fenced 40-acre tract located just south of the Sand Mountain Recreation Area that preserves a remnant of the land the way it was during the days of the Pony Express. The area is closed to OHV travel and open to hiking. There is a 0.5-mile self-guided interpretive trail that winds through the study area. Along this trail visitors will find more than a dozen signs that provide information on the wildlife, plants, history, and geology of the Sand Mountain area. The Sand Springs Pony Express Station, one of the few remaining rock-walled structures, is located within the study area. The station was buried under sand for close to 100 years prior to being excavated by University of Nevada, Reno in 1977.

No additional natural areas have been identified or proposed for the planning area. Since the existing natural area designations are not Congressional designations, they are being reviewed during the RMP process for redesignation as ACECs or SRMAs to ensure the protection of values that have been identified.

Silver Saddle Ranch

Located in the southeastern part of Carson City off Carson River Road, the ranch encompasses 702 acres that run along the east and west banks of the Carson River. The ranch connects BLM-administered lands on Prison Hill and the Pine Nut Mountains. Once proposed as a location for residential development, the ranch is considered a key piece of property by Carson City

residents and the BLM for maintaining open space and recreational and educational opportunities while preserving part of the natural Carson River environment. It is a popular place to hike, bird-watch, and experience a rural setting that is fast disappearing in much of western Nevada.

Congress directed transfer of the Silver Saddle Ranch and federal lands along the Carson River, including the existing Prison Hill Recreation Area (approximately 3,604 acres), subject to the reservation of a conservation easement, to Carson City under the authority of the Omnibus Public Lands Management Act of 2009 (Public Law 111-11, Section 2601). Once the transfer occurs, Carson City will use the property for undeveloped open space, passive recreation, customary agricultural practices, and wildlife protection. Carson City will construct new and maintain existing trails and trailhead facilities, conduct fuels reduction projects, maintain or reconstruct any improvements on the property that were in existence on March 31, 2009, and allow the use of motorized vehicles on designated roads, trails, and areas in the south end of Prison Hill.

Wilson Canyon

Wilson Canyon is located along the banks of the West Fork of the Walker River in Lyon County 20 miles south of Yerington along Highway 208. The area supports a strong OHV contingency and attracts both community- and destination-based visitors. Recreation opportunities include camping, fishing, equestrian use, hiking, picnicking, and riding OHVs in the surrounding hills.

Special Recreation Management Areas

During the land use planning process, BLM-administered lands that are identified as providing unique or outstanding recreational opportunities or potential opportunities, can be set aside as SRMAs. SRMAs are administrative units that traditionally have higher recreation use, require extra recreation investment, or need more intensive recreation management. Recreation Area Management Plans are usually developed specifically for a SRMA to protect and enhance a targeted set of recreational activities, experiences, benefits, and desired recreation setting characteristics. Since recreation is the management focus and highest-use value over other resource uses, management of these areas provides for the long-term protection of the recreation resource.

Walker Lake and Indian Creek/East Fork Carson River are the only two sites within the planning area that are currently designated as SRMAs, through past land use planning process, due to the unique and identified recreational niche found in these areas. Refer to **Figure 2-53, Alternative A: Special Recreation Management Areas**, for the location and boundaries of these two sites.

Indian Creek /East Fork of the Carson River SRMA

The Indian Creek recreation area consists of more than 7,000 acres of lands that are managed for public outdoor recreational use. Access is provided by Airport Road, off State Highway 89 midway between Woodfords and

Markleeville, California. The 160-acre 30-unit campground is located on the west shore of Indian Creek Reservoir. The East Fork of the Carson River supports white water rafting and fishing. Additional discussion can be found in **Section 3.4.4, Wild and Scenic Rivers**. Recreational opportunities include camping, picnicking, hiking, hunting, fishing, white water rafting, sailing, mountain biking, nature study, rock collecting, sightseeing, and photography. While geographically located in California, the area is managed as a recreation fee area by the Sierra Front Field Office.

Walker Lake SRMA

The Walker Lake recreation area encompasses 87,700 acres along the east and west shorelines of Walker Lake near the town of Hawthorne in Mineral County. On the western shoreline along Highway 95, the recreation area consists of Sportsman's Beach Campground, which includes 31 individual camp sites, and the dispersed camping areas of The Cove, Tamarack, and Twenty Mile Beach. There are no developments along the eastern shoreline. Walker Lake offers a variety of recreational opportunities, including swimming, picnicking, boating, bird watching, and water-skiing.

Extensive Recreation Management Areas (ERMA)

In addition to the SRMAs, the CCD is also responsible for designating and managing recreation opportunities in areas designated as ERMAs. ERMAs are administrative units that require specific management considerations in order to sustain the principle recreation activities and associated qualities and conditions, commensurate with the management of other resources and resource uses. Recreational uses do occur and some management activities are required within these areas, but they are not identified as the primary resource or resource use, and management actions or land use decisions may consider other resource values over the recreation values or opportunities. Addressing recreation setting characteristics, visitor health and safety, resource protection, and use and user conflicts is the primary objectives established for management of these areas. There are no ERMAs currently designated in the planning area.

BLM-administered lands not designated as Recreation Management Areas

Lands not designated as RMAs are managed to meet the basic recreation and visitor services needs that consist mainly of recreational activities of an undeveloped and dispersed nature. By definition, dispersed recreation is made up of small occurrences distributed over large areas. Impacts such as minor disturbances to soil and vegetation are negligible, and the environment tends to recovery quickly. It is the general policy of the BLM that undeveloped federal lands under its administration are available to the public for dispersed camping and general recreation, with the following provisions:

- Camping is limited to 14 days within a 25-mile radius in a 28-day period.
- Pack out what you pack in.

- Avoid camping within 200 feet of any water source.
- Do not leave campfires unattended.

Unless otherwise designated, most of the planning area is open for dispersed recreation use, which can be popular in many areas. Long-term cumulative impacts may occur in association with dispersed recreational activities and need to be monitored. These activities are normally, but not exclusively, linked to heavily used popular areas and can include soil compaction and erosion, noxious weed dispersal, the creation of unauthorized two-track, single-track and nonmotorized trails as well as the purposeful vandalism of natural and cultural resources. Over time, recreational activities can adversely affect sensitive soils, wildlife habitat, riparian areas and important cultural and historical sites.

Special Recreation Permits

The BLM administers over 50 commercial and competitive permits. These single- and multiple-event permits generally include OHV races and tours, horse endurance rides, dog trials, vendors, back country touring, and outfitters and guides. Counties generally support and encourage these events as they provide economic benefits to the surrounding communities. Demand for permits is high and continues to increase along with the popularity of recreational use of BLM-administered lands.

Individual Special Recreation Permits

Individual SRPs are only issued at Sand Mountain Recreation Area for camping and use of the recreation area, primarily by OHV enthusiasts. Users have the option of purchasing a 7-day permit for \$40 or an annual permit for \$90 (2013 figures) for use of the site. Revenue collected is returned to the site to provide for facility maintenance, staffing, law enforcement, and site improvements. An estimated 50-70,000 users visit the recreation site annually, with roughly 60 percent of the users travelling from California. **Table 3-31**, Recreational Permit Data for Sand Mountain Recreation Area, presents permit sales and revenues for Sand Mountain Recreation Area from 2006 through 2013.

Table 3-31
Recreational Permit Data for Sand Mountain Recreation Area

FY	Permits			Revenue		
	Annual	Weekly	Total	Annual	Weekly	Total
2006	1,792	4,895	6,687	\$161,286	\$195,781.00	\$357,067
2007	1,609	4,798	6,408	\$144,826	\$ 91,937.00	\$336,763
2008	1,685	3,941	5,626	\$151,636	\$157,629.00	\$309,265
2009	1,605	4,373	5,977	\$144,408	\$174,918.00	\$319,326
2010	1,255	3,343	4,599	\$112,979	\$133,732.00	\$246,711
2011	923	2,604	3,527	\$82,090	\$103,640	\$185,730
2012	782	2,209	2,991	\$69,074	\$88,039	\$157,834
2013	584	2,141	2,725	\$57,590	\$95,858	\$153,448

Recreational Use Permits

Recreational Use Permits are issued to individuals or groups for short-term recreational use at the Indian Creek Campground near Markleeville, California, and Sportsman's Beach Campground at Walker Lake. Permits are issued at Indian Creek Campground through a camp host, while Sportsman's Beach is self-pay. **Table 3-32**, Recreational Use Permit Data for Sportsman's Beach and Indian Creek Campgrounds, reflects the fee collection at Sportsman's Beach and Indian Creek from 2006 through 2013.

Table 3-32
Recreational Use Permit Data for Sportsman's Beach and Indian Creek Campgrounds

FY	Revenue	Permits
Sportsman's Beach		
2006	\$ 2,979	490
2007	\$ 3,554	590
2008	\$ 3,438	573
2009	\$ 3,253	523
2010	\$ 2,653	397
2011	\$ 2,344	350
2012	\$1,844	285
2013	\$2,555	431
Indian Creek		
2006	\$ 44,727	1,195
2007	\$ 44,434	1,166
2008	\$ 29,553	916
2009	\$ 34,294	1,063
2010	\$ 14,013	448 ¹
2011	\$ 33,066	1,121
2012	\$ 23,943	773 ²
2013	\$ 28,177	987 ³

¹ Campground closed 2 months during camping season for pavement resurfacing.

² Collection procedures were modified during 2012.

³ Decreased use associated with the early October campground closure (about 2 weeks) due to furlough and the Rim Fire ("Yosemite") smoke during the summer which deterred campers.

Vending

Issuance of vending SRPs within the planning area has mostly been limited to the Sand Mountain Recreation Area. Vending associated with specific SRP events is generally captured under the event permit. Vendors sell OHV-related items, parts, accessories and clothing, and food items, or provide welding and repair services. Vendor permits issued at Sand Mountain are for a 5-year period with the requirement for annual validation and quarterly post use reporting. On average, there are six to eight permits issued annually.

Outfitter and Guide

Outfitter and guide permits are issued at the district level for a period of up to 10 years with the requirement for annual validation. Permits are issued to guides by the CCD Office closest to their residence or the office they hunt in the most. While one district has the lead for the permit, the other districts in the state provide authorization for the use of public lands in their area. The BLM manages approximately 10 guide permits annually.

Letters of Agreement

Letters of Agreement can be used as an alternative to issuing SRPs when the proposed recreation use has no foreseeable impact on resources, and stipulations are not required. Agreements have been used to allow such activities as trail ride reenactments and educational events.

Key Features

Popular recreation sites within the planning area include the developed Indian Creek Campground and Walker Lake Special Recreation Management Areas, Sand Mountain OHV Recreation Area, Silver Saddle Ranch, and Grimes Point Archaeological Area, undeveloped or dispersed recreation areas, and Recreation and Public Purpose sites that are managed by local government agencies or organizations. SRPs for motorized and nonmotorized recreational uses are an important component of the recreation program in the planning area and include OHV races, nonspeed OHV events such as poker runs, trail rides, and back country touring, and nonmotorized events such as dog trials, mountain bike events, equestrian events, vending, reenactments, and weddings.

Increased activities observed at the local level include driving for pleasure, OHV use, fishing, hunting, camping, wildlife viewing, and mountain biking. **Table 3-33, Popular Recreational Activities within the Planning Area**, illustrates popular activities in the planning area for 2009 through 2011 obtained from the BLM Recreation Management Information System database.

Commercial, Competitive, and Organized Groups for motorized types of Recreation

The use of roads and trails by motorized groups to conduct events has been a primary component of travel management within the planning area. When OHV use is specifically authorized (i.e., an SRP) it is no longer defined as an OHV. Commercial, competitive, and organized motorized groups utilize roads and trails in both the urban and rural areas for local and regional recreational events. Motorized uses include events such as the annual Vegas to Reno Off Road Race that has been authorized for the past 18 years. This event uses roughly 225 miles of county and BLM-maintained roads, sand washes, and primitive roads for their designated point-to-point course, which starts in the town of Beatty and ends in Dayton 534 miles later. Other motorized events such as the Valley Off-Road Racing Association Hawthorne, Yerington, and Fallon races use segments of roads and primitive roads to hold their events on

Table 3-33
Popular Recreational Activities within the Planning Area

Activity	Visitor Days		
	2009	2010	2011
Motorized Boating	682	683	779
Non-Motorized Boating	2,313	2,038	2,348
Camping/Picnicking	241,347	231,537	251,541
Pleasure Driving	22,767	22,199	23,123
Fishing	14,179	12,683	13,746
Hunting	61,094	58,912	64,366
Interpretation and Education	16,384	16,484	17,344
Non-Motorized travel	126,489	122,551	132,654
OHV Travel	349,205	337,596	302,620
Specialized Motorsport Events	488	44	1,244
Specialized Non-motorized Events	24,697	23,764	27,392
Non-motorized winter activities	3,268	3,145	3,407

circular courses of 40 to 60 miles. Competitive motorcycle races from local clubs utilize single-track trails in areas such as the Dead Camel Mountains and the Virginia City area. Motorized groups such as the Modesto Ridge Runners, who have been active for over 30 years, and the Sierra Trail Dogs utilize roads and trail systems to sponsor rallies and poker runs that are nonspeed events for four-wheel-drive vehicles and motorcycles. Back-country or guided touring by commercial enterprises and individuals has become more popular in recent years. This includes the use of four-wheel-drive vehicles such as individual sports utility vehicles or technical off-road vehicles, all-terrain vehicles, and side-by-side vehicles. Roads and trails within the planning area are also utilized by groups to access BLM-administered lands for dispersed recreational activities throughout the year.

Nonmotorized events and activities that utilize the travel management system include equestrian endurance events, endurance runs or bike rides, dog trials, and wagon trail reenactments by schools or special interest groups. Hiking trails are increasingly in demand in the urban interface areas but also provide access to more remote recreation areas such as WSAs.

Visitor Satisfaction Surveys

In order for the BLM to comply with the Government Performance and Results Act and to better meet the needs of the public, a visitor satisfaction survey was conducted at 24 BLM recreation sites in 13 states during fiscal year 2011. The survey was developed to measure each site's performance to BLM Government Performance and Results Act-related goals. The survey collected visitor satisfaction data regarding visitor information (i.e., use of maps, signs, brochures), developed facilities, managing recreation use, resource management, BLM staff and customer service, and educational and interpretive materials. The CCD sites used in the national survey included Sand Mountain OHV Recreation

Area and Indian Creek Campground. Results of the survey for these two areas can be found on **Table 3-34**, Government Performance and Results Act Results Table.

Table 3-34
Government Performance and Results Act Results Table

Site	Overall Quality of Recreation Experience					Number of Respondents	Government Performance and Results Act Satisfaction Measure ¹
	Very Good	Good	Average	Poor	Very Poor		
Sand Mountain Recreation Area	39%	53%	8%	0%	1%	199	91%
Indian Creek	54%	38%	7%	0%	0%	94	93%

¹Percentage of site visitors satisfied overall with appropriate facilities, services, and recreational opportunities.

Resource Changes

While the demands for undeveloped, dispersed recreation on BLM-administered lands had been increasing significantly over the last decade, the dispersed use of BLM-administered lands has been static over the last several years due to the economic downturn and negative employment situation. As the economy recovers, disposable incomes go up and populations increase in rural areas, the demand for recreational opportunities is expected to sharply rise again.

The influx of off-road recreational users from California will continue to escalate due to strict enforcement of vehicle registration and environmental regulations. This will continue to push OHV use into developed and dispersed areas within the planning area, resulting in an increased need for additional management as well as resulting in negative impacts on other resources in areas with intensive or unregulated use.

Increase in popularity of high performance and multi-passenger vehicles such as utility terrain vehicles (side-by-sides) will continue to change the requirements for recreation services. Easier accessibility to rugged, remote areas by large groups and families will impact areas that have seen low visitation in the past. Demands for destination touring verses designated riding areas will expand.

Population increases in areas of urban interface will escalate demands for access to BLM-administered lands near residential developments and the need to provide increased management and protection of resources. Areas with developed access such as the Faye-Luther Trail may experience negative impacts from overuse as well as conflicts from multiple user groups such as hikers, equestrians, and mountain bikers.

Existing facilities, including trailhead access to BLM-administered lands, maintenance, and public information, generally do not meet the needs of the recreating public within the planning area. This typically results in user-created

social trails or staging areas that account for the proliferation of new user-defined recreation opportunities in areas that may have significant resource values.

The BLM continues to view heritage tourism as an aspect of resource protection, education, recreation, and sustainable economic potential for local communities. Resources important to American heritage remain a part of the BLM-administered urban interface landscape and include rock art and paleontology, caves used by Native Americans, and mining towns ranging from an active county seat within the Virginia City National Historic Landmark to ghostly remnants scattered throughout the CCD.

3.3.5 Comprehensive Travel and Transportation Management

Travel and transportation management is a comprehensive approach to on-the-ground management and administration of travel and transportation networks of roads, primitive roads, primitive routes, trails, and areas. Travel and transportation management consists of implementation of travel and transportation planning decisions, route inventory and mapping, signing area and route designations, education and interpretation, law enforcement, easement acquisition, monitoring activities, and other measures necessary for providing access to and across BLM-administered lands for a wide variety of uses (including recreational, traditional, authorized, commercial, educational, and for other travel and transportation purposes), as well as all forms of motorized and nonmotorized access or use, such as foot, pack stock or animal-assisted travel, mountain bike, off-highway vehicle, and other forms of transportation. BLM Manual 1626, Travel and Transportation Management, (BLM 2011d) requires the establishment of a long-term, sustainable, multi-modal transportation system of open areas, roads, primitive roads, and trails that addresses public and administrative access needs to and across BLM-administered lands and related waters.

The transportation network in the planning area consists of federal and state highways, county roads, roads built to facilitate mineral and energy exploration, industrial development, two-track and single-track trails for OHVs, and single-track trails for hiking, biking, and equestrian use. An extensive network of official BLM roads consists of ditched and crowned gravel roads that are regularly maintained and an extensive array of unofficial roads and vehicle routes that were never formally constructed and rarely receive maintenance. Many are two-track vehicle trails that were created and are maintained simply by the passage of motor vehicles. The nonmotorized transportation network includes trails for equestrian, pedestrian, and cycling activities. Refer to **Section 3.5.6, Facilities and Transportation Maintenance** for detailed discussion of the existing road network.

While no travel management areas are identified within the planning area, the current management plan has addressed travel management allocations on a

case-by-case basis through land use plans or activity-level plans. Since the adoption of the Consolidated RMP in 2001, the following planning documents have also addressed travel management issues:

- *Southern Washoe County Plan Amendment (BLM 2001b)*: Closed Fred's Mountain and Hungry Ridge to motorized travel, and designated all lands not designated as open or closed to motorized travel as limited to existing roads within the planning area.
- *Alpine County Plan Amendment (BLM 2007c)*: Designated 5,521 acres of BLM-administered lands as limited to designated roads and trails, 894 acres of the Faye-Luther Canyon as closed to motorized travel, 268 acres within the Indian Creek recreation area as closed to motorized travel, 5,143 acres in Bagley Valley as limited to designated roads and trails, and 378 acres as closed to motorized travel; designated 2,375 acres in Slinkard WSA as closed to motorized travel regardless of WSA status; and designated a preliminary network of roads, primitive roads, and trail networks on 4 miles of nonmotorized and 6.8 miles of motorized route.
- *Carson City Lands Bill (BLM 2009)*: Restricted the use of motorized and mechanical vehicles on federal lands within the city as limited to roads and trails in existence at the time of passage of the act.

There is considerable overlap between travel management and all other uses on BLM-administered lands. For example, many people visit BLM-administered lands for recreation purposes. For these visitors, a route system may serve as either a means to reach a destination where the activity occurs (e.g., a road to a trailhead or parking area) or as the focus of the recreation activity itself (e.g., a four-wheel driving, hiking, or horseback riding trail).

Current Conditions

Primitive roads and two-track and single-track trails provide access to remote areas, usually by means of a four wheel-drive, all-terrain vehicle or motorcycle. Nonmotorized travel systems include equestrian and pedestrian-designated trail sections at Faye-Luther Canyon, Prison Hill Recreation Area, Indian Creek Recreation Area, Silver Saddle Ranch, Sand Mountain Desert Study Area, and Grimes Point Archaeological Area.

Off-Highway Vehicles

Historically, OHVs have been used in the planning area for recreation and leisure activities. OHVs and other motorized vehicles such as all-terrain vehicles, utility vehicles, and motorcycles have become indispensable tools for resource-related industries such as ranching, mineral exploration, and oil and gas production. OHV clubs and organizations are present in the communities within the planning area. These groups hold OHV endurance, race, and challenge course events such as the Vegas to Reno Off-Road Race, the longest off-road race event held in the United States. These groups also conduct

authorized OHV competitive race and nonspeed events through the Special Recreation Permit program.

Regulations in 43 CFR Part 8342.1 require the BLM to establish OHV designations for all BLM-administered lands to promote public safety, protect resources, and minimize conflicts between multiple use groups. Per BLM regulations, areas must be classified as Open, Limited, or Closed to motorized travel during the RMP planning process. The term OHV is commonly used by industry, government, and users and is the same as off-road vehicle. Off-road vehicle is the term used in regulations. For legislative purposes, 42 CFR Part 8340.0-5 defines an off-road vehicle as “any motorized vehicle capable of or designated for, travel on or immediately over land, water, or other terrain.” In general, the OHV term refers to off-road motorcycles, all-terrain and utility-terrain vehicles, jeeps, specialized four-wheel drives such as rock crawlers, race trucks, and buggies, and snowmobiles. Certain authorized vehicles were excluded from this definition, including non-amphibious registered motor boats; any military, fire, emergency, or law enforcement vehicles while being used for emergency purposes; vehicles whose use is expressly authorized by the authorized officer, or otherwise officially approved; vehicles in official use; and any combat or combat support vehicle when used in times of national defense emergencies. The national objectives for OHV management are to provide for OHV use while protecting natural resources, promoting public safety, and minimizing conflicts among the various users of BLM-administered lands.

An *Open* designation is an area where all types of vehicle use are permitted at all times anywhere in the area, subject to various operating regulations and vehicle standards. A *Closed* designation is an area where OHV and other motorized uses are prohibited to protect resources, ensure visitor safety, or reduce user conflicts. A *Limited* designation is an area restricted at certain times, in certain areas, and to certain vehicular use. BLM-administered lands that have not been designated are generally managed as open areas (i.e., open to cross-country motorized travel) until a travel management plan has been completed. **Table 3-35, Motorized Travel Designations in the Planning Area**, lists the acreages that have been designated under various land use plans. Open areas include specifically designated OHV riding areas or those areas that are not considered closed or limited in the Lahontan RMP or the Walker RMP. OHV travel within WSAs is limited to cherry-stemmed roads and primitive routes that were identified at the time of the WSA designation. Motorized traffic is allowed on primitive routes to the degree that existed at the time the WSA was designated, however, due to the nature of the primitive routes, they are not considered part of the transportation system.

WSAs is limited to cherry-stemmed roads and primitive routes that were identified at the time of the WSA designation. Motorized traffic is allowed on primitive routes to the degree that existed at the time the WSA was designated,

Table 3-35
Motorized Travel Designations in the Planning Area

Travel Classification	Acreage*
Open, OHV designated areas**	28,819
Closed to motorized	31,822
Limited to designated roads trails	177,574
Limited to existing roads and trails	764,031
Limited by season	13,725
Undesignated***	3,789,891
Total	4,805,862

* Acreage based upon available data, actual acreage may vary based upon use of old documents versus GIS calculations.

** Areas designated open by Lahontan RMP or Walker RMP based upon being neither closed nor limited.

***Areas that have not been formally designated as open, closed, or limited through a planning decision and are managed like "Open" OHV Areas.

however, due to the nature of the primitive routes, they are not considered part of the transportation system.

Resource Changes

The increased development of private lands adjacent to BLM-administered lands in the urban interface will necessitate proactive management of trail and road systems and will influence travel management decisions and direction.

The use and popularity of OHVs should continue to grow well into the future, increasing the demand for specialized trails and designated OHV areas. The urban interface within the Sierra Front Field Office and dispersed areas throughout the Stillwater Field Office will continue to see an increase in off-road OHV use.

Technological advancements will continue to change the type of use and demands on travel management. For example the advent of all-terrain vehicles in the 1990s has had significant impact on single-track trails used by motorcycles. Today, the increasing popularity of utility terrain vehicles or side by sides as they are also known, is having an impact on trails created by all-terrain vehicles due to their wider wheel base.

Areas rich in cultural resources and areas popular for dispersed motorized and nonmotorized recreational use will need increased OHV and travel management focus on designated roads and trails so as to maintain or protect the resources.

The increase in environmental regulations, restrictions on motorized recreational activities, and loss of OHV riding areas in California will continue to impact lands in Nevada. More recently, the implementation of travel management plans on National Forest System lands in California and Nevada will further impact the planning area by increasing OHV use on BLM-

administered lands. Increases in the amount of cross-country riding and user created trails in areas such as Hungry Valley, Pine Nut Mountains, Wilson Canyon, Middle Gate, and Fairview Peak by motorcycle and four-wheel-drive clubs will continue to increase at an exponential rate.

Activities such as back-country touring and scenic driving by private sport utility vehicles and commercial operators has increased, necessitating the need for improved infrastructure such as road signage as well as the need for road/trail maps and web-based information. Increasing interest by commercial operators to provide guided back-country travel using high-end race style OHVs and utility terrain vehicles has created a new niche that needs to be addressed in travel management plans.

3.3.6 Lands and Realty

The BLM lands and realty program manages BLM-administered lands in a manner that directs and controls the use, development, and land tenure of the land, that protects the natural resources associated with BLM-administered lands and adjacent lands, whether private or administered by a government entity, that prevents unnecessary or undue degradation, and that coordinates, to the fullest extent possible, all BLM actions under the regulations with other public land resources, state and local governments, interested individuals, and appropriate quasi-public entities. The lands and realty program consists of three primary elements: land use tenure, withdrawals, and land use authorizations. Land tenure describes BLM ownership and jurisdiction of public lands. The BLM can acquire lands through purchase, exchange, or donation and dispose of land through exchange and sale. Withdrawn lands are those for which the BLM retains administrative authority, but the use of those lands is restricted or transferred to another federal agency for a particular public purpose. Land use authorizations are issued for the use and development of BLM-administered lands. The most common form of land use authorization is a ROW, which can be a linear feature, such as a road or transmission line, or a site feature, such as a communication tower, wind energy turbine, or solar energy production facility.

Current Conditions

The following section describes the current conditions and characterization of lands and realty within the planning area.

Land Tenure

BLM-administered land accounts for 54 percent of all surface lands within the planning area. Other federal lands account for an additional 25 percent. Surface land ownership within the planning area is summarized in **Table 3-36**, Surface Land Ownership.

Many of the most heavily used parcels of BLM-administered land on the CCD are within the urban interface. The urban areas of Reno/Sparks, Carson City,

Table 3-36
Surface Land Ownership

Land Status	Acres
BLM	4,803,300
Private	1,507,900
State of Nevada and California	25,500
Other federal (Tribal, Reclamation, National Wildlife Refuge, US Forest Service, and other federal lands)	2,305,800
Other	43,800
Water	252,800
<i>Total</i>	<i>8,939,100</i>

and Gardnerville/Minden experienced annual growth rates as high as 8 percent between 2000 and 2007. The growth rates of these urban areas have plateaued since 2007 and in some cases populations have declined (Nevada Department of Taxation 2012). Despite recent trends, the demands on BLM-administered lands, particularly in the urban interface, remain high. Community-level demands on BLM-administered lands include locations for future commercial and residential development, flood protection, and parks and open space. Some of the demands have been met through the sale of BLM-administered land with identified commercial or residential development potential, acquisition of environmentally sensitive lands, and leasing or conveying of lands under the Recreation and Public Purposes Act of 1926 for schools, parks, and other public purposes.

Current Consolidated RMP land tenure designations include the FLPMA Disposal, Recreation and Public Purposes Act Disposal, and Retention, which are defined as follows:

FLPMA Disposal: Public land parcels have potential for a FLPMA Disposal when they meet certain criteria established in the FLPMA, such as being difficult or uneconomical to manage and serving important public objectives such as community expansion. The FLPMA Disposal actions are usually in response to public request or application, but, they may be generated internally. A disposal results in a title transfer, wherein the lands leave the public domain through such instruments as a patent or deed. All disposal actions are coordinated with adjoining landowners, local governments, and current land users. **Figure 2-70, Alternative A: Land Tenure**, shows lands in the planning area that are designated for disposal within the Consolidated RMP.

FLPMA Disposals of land are primarily through sales. BLM-administered lands determined suitable for sale under the FLPMA are offered on the initiative of the BLM. The lands are not sold at less than fair market value. Lands determined suitable for a FLPMA sale must be identified in the RMP. Any lands to be disposed of by sale that are not identified in the current RMP require a plan

amendment before a sale can occur. Sales are managed under Section 203 of the FLPMA.

Exchanges are another form of the FLPMA Disposal. An exchange occurs when BLM-administered land or interest in land is swapped for nonfederal lands or interests in lands. Exchanges are only pursued with willing landowners. The exchange must occur within the same state and the values conveyed must not be greater than the values retained in the public domain. Through exchanges, non-federal parties can acquire lands with commercial, industrial, residential, or agricultural development or economic potential. In turn, the federal government acquires lands offering public recreation, open space, wildlife, and resource values. Moreover, the Director of the BLM, on behalf of the Secretary of the Interior, has the responsibility under CFR 2200.0-4 of determining that the exchange is in the public's best interest.

Recreation and Public Purposes Act Disposal: The Recreation and Public Purposes Act, as amended, allows for the disposal of parcels either directly through patent, or through an interim leasing arrangement to meet an approved Plan of Development prior to disposal through patent. Applicants under the Act are limited to nonprofit corporations and local governments. Under the Act, land is allowed to be leased and purchased for less than fair market value, and in some instances, for free.

Retention: Most BLM-administered land (4,626,400 acres) in the planning area is designated for retention. These lands will continue to be managed by the BLM for multiple use and sustained yield.

Acquisition is another means of land tenure adjustment. The BLM, through the FLPMA, is authorized to acquire lands or interests in lands through purchase, exchange, or donation. Acquired lands become BLM-administered lands. Lands are often acquired to facilitate various resource management objectives, such as preservation of important habitat for threatened or endangered species or securing access for important recreational values. Funding exists for such acquisitions through special programs such as the Land and Water Conservation Fund and the Southern Nevada Public Land Management Act.

Special Legislation can also have an effect on land tenure. Congress has the authority to pass legislation which directs the BLM to make land tenure adjustments. These land tenure adjustments are wholly dependent on the verbiage of the legislation, and thus cannot be summarized as each Act is unique.

The BLM has disposed of approximately 4,954 acres since January 1, 2001. The disposals were made up of 10 Recreation and Public Purposes Act patents (623 acres): 2 Desert Land Entries (380 acres), 7 land exchanges (2,420 acres), special legislation (728 acres), and 6 sales (803 acres). During that same timeframe, CCD acquired approximately 34,254 acres. The acquisitions were composed of 6 land exchanges (30,968 acres); 17 FLPMA (Southern Nevada Public Land

Management Act and Land and Water Conservation Fund funded) acquisitions (2,916 acres); 1 donation (30 acres); and 1 transfer from another agency (340 acres). The BLM has also acquired 1,873 acres of conservation easement.

The BLM has moved toward the consolidation of BLM-administered lands to benefit the public. To achieve this goal, candidates for land tenure adjustment through disposal, sale, exchange, possible special legislation, or acquisition include parcels that are difficult to manage or that do not have public access, relatively small parcels adjacent to other federal or state-managed lands, parcels that would increase conservation of natural resources, and parcels that increase access/use of BLM-administered lands. The majority of the BLM-initiated land tenure adjustments in the planning area have occurred near communities within the urban interface.

Withdrawals

Unlike a disposal or acquisition where there is a change in land ownership and associated transfer of title, a withdrawal places a title encumbrance on the land for the purpose of implementing a specific resource management objective, transfer of administrative jurisdiction from the BLM to another entity, or to meet a dedicated public purpose. Withdrawals are used to preserve sensitive environmental values, protect major federal investments in facilities, support national security, and provide for public health and safety. Withdrawal segregates a portion of BLM-administered lands and suspends certain operations of the public land laws, such as mining claims or approval of land use authorizations.

Types of withdrawals include administrative withdrawals, Presidential Proclamations, Engle Act, congressional withdrawals, and Federal Power Act withdrawals. Administrative withdrawals are those made by the President, Secretary of the Interior, or other authorized BLM authority. Withdrawals cannot be decided in an RMP. The President has the authority under 34 Statute 225, 16 USC 431 to designate objects or areas of historic significance, such as historic structures and national monuments. Congress also has the ability to mandate withdrawals via the passage of public laws. Congressional withdrawals include National Parks, Wilderness areas, and Wild and Scenic Rivers (WSRs). Certain livestock driveways can also be withdrawn. Federal policy (43 USC 1714) restricts all withdrawals to the minimum time and acreage required to serve the public interest, maximize the use of withdrawn lands consistent with their primary purpose, and revoke all withdrawals that are no longer needed.

There are currently 418,000 acres of withdrawal lands in the planning area.

Land Use Authorizations

The BLM issues ROWs, permits, and leases for the use, occupancy, and development of BLM-administered lands. Types of BLM land use authorizations include the following:

Rights-of-Way: ROWs are the most common form of land use authorization. They are issued under the regulations at 43 CFR Parts 2800 and 2880 for the use of BLM-administered land by private, commercial, and government entities. Facilities requiring ROW grants from the BLM include power lines, pipelines, roads, communication facilities, and utility-scale wind and solar energy testing and development projects. The BLM is responsible for managing approximately 1,443 ROWs within the planning area.

Communication Facilities: Communication facility applications are granted through a lease under the ROW program. Several sites within the planning area, typically higher elevation areas such as ridges or hill tops, host communications equipment for various public and private tenants such as phone companies, local utilities, and local, state, and federal agencies. The planning area has 110 authorized communication facilities at 51 designated sites.

Recreation and Public Purposes Act Leases: Leasing of BLM-administered land in accordance with the terms of the Recreation and Public Purposes Act is done for the benefit of state and local governments or qualified nonprofit organizations. Types of Recreation and Public Purposes Act leases include campgrounds, schools, parks, and historic monument sites.

FLPMA Permits and Leases: Section 302 of the FLPMA allows for the issuance of leases and permits for any use that is not specifically authorized under other laws or regulations and not specifically forbidden by law. Section 302 permits are short-term (3 years or less), whereas section 302 leases are more permanent, convey a possessory interest, and involve significant financial investment. Examples of these types of permits include apiaries, storage yards, or commercial filming. Examples of leases include ski resorts, State National Guard military use, or an orchard. Section 302 leases can be a tool to resolve trespass such as an unintentional residential or agricultural encroachment on BLM-administered land.

Unauthorized Use/Trespass: Trespass is unauthorized use of BLM-administered land and often requires the removal of facilities and reclamation, or authorization of the facilities under the appropriate land use authorization for continued use. Trespass is handled under the same regulations as other authorizations (43 CFR Parts 2800, 2880, and 2900). Alleged encroachment, which is the first step in identifying trespass, can be resolved without establishing a case file by amending a current land use authorization case to incorporate unauthorized facilities or through informal negotiation with the alleged trespasser. The BLM prioritizes the resolution of trespass cases based upon human health and safety and severity of resource damage. A total of seven realty trespass cases were established between 2001 and 2011.

The BLM also uses utility corridors as a planning-level tool to guide future land use authorizations. Corridors identify preferred areas for the placement or co-location of multiple linear ROWs. Facilities within corridors may include gas and

water pipelines, power lines, and communication lines such as telephone or cable. The BLM encourages the placement of new ROWs within existing corridors to the extent possible. However, factors such as origin, destination, purpose, compatibility, and saturation of an existing corridor may prevent or limit the routing of a new facility within an existing corridor. Likewise, the proposed placement of a ROW within a designated corridor does not guarantee the authorization of that ROW.

Section 368 of the Energy Policy Act of 2005, Public Law 109-58 (HR 6), enacted August 8, 2005, directed the Secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate, under their respective authorities, corridors on federal land in 11 western states for oil, gas, hydrogen pipelines, and power lines. There are 215,300 acres of Section 368 energy corridors within the planning area. (See **Figure 2-74**, Right-of-Way Energy Corridors).

Resource Changes

Land Tenure

The BLM will continue to pursue land tenure adjustments within the planning area on a case-by-case basis and respond to special legislation and applications or proposals from other federal agencies, state and local government and the general public as staff and priority workload allow. All proposals will be given full consideration of public benefits and land management goals.

An increase in demand for land tenure adjustments is anticipated. In addition to continuing interest in availability of BLM-administered lands for public and private enterprises, a number of proposals for federal legislation to transfer BLM-administered lands to local governments or other entities are currently under consideration. Increased demand for conveyances of BLM-administered land or interest in lands out of federal ownership is likely through special legislation or under current laws and regulation. Land acquisitions for public access purposes has not been a major focus for the CCD in recent years, in part due to limited opportunities; however, as the demand for securing public access for recreational use of BLM-administered lands near growing communities continues to increase, acquisitions related to access are anticipated to increase.

Areas with anticipated higher potential for land tenure adjustments include inholdings or lands adjacent to specially designated areas such as ACECs, Special Management Areas, WSAs, and existing or potential recreation sites. In addition, public lands interfacing with areas of increasing population growth, parcels that are landlocked, and parcels that are difficult or uneconomic to manage may be targeted for potential land tenure adjustments.

Withdrawals

A growing population increases the use of BLM-administered land, placing more pressure on public land resources. In response to this pressure, acres of land withdrawals could increase.

Land Use Authorizations

Demand for land use authorizations in the planning area is anticipated to increase in correlation with future residential and commercial development on adjacent private lands and in response to increasing population and energy demands within and beyond the CCD. **Table 3-37**, ROW Trends in Carson City District, shows authorizations granted and applied for between January 1, 2001, and December 31, 2013.

Table 3-37
ROW Trends in Carson City District

Calendar Year	ROWs Applied For	ROWs Authorized	Percent Authorized
2001	37	36	97%
2002	26	23	89%
2003	35	30	86%
2004	33	32	97%
2005	37	24	65%
2006	35	32	91%
2007	39	38	97%
2008	46	22	48%
2009	23	26	113%
2010	28	20	71%
2011	47	23	49%
2012	39	34	87%
2013	27	28	103%

Over the past 10 years, the BLM has averaged issuance of approximately 28 ROW authorizations per year with an average of 35 applied for annually. Issuance of permits varies depending on demand, but typically average between 1 and 3 per year. Communication facility lease applications, on both existing and new sites, are expected to continue to increase on BLM-administered lands within the planning area.

Management of current land use authorizations, through monitoring, compliance inspections, amendment, and renewals presents significant workload district wide, while new applications for ROWs, permits, and leases continue to be received for projects across the district. Urban interface areas adjacent to Reno, Sparks, Carson City, and Minden/Gardnerville are expected to see the greatest demand for new authorizations and trespass activities. These demands are expected to increase.

3.3.7 Renewable Energy

The potential for renewable energy resources in the planning area was not evaluated in the 2001 Consolidated RMP. Since adoption of that plan, the DOI, in conjunction with the US DOE, USDA, and US DOD, has developed policy for NEPA compliance for energy projects.

Wind and solar resource production is permitted via ROWs through the Lands and Realty Program, whereas geothermal resources are considered a leasable fluid mineral resource. Therefore, geothermal resources are addressed in **Section 3.3.3, Geology and Minerals**.

Current Conditions

The only renewable energy facilities on BLM-administered land in the planning area are for geothermal power. However, there has been interest in ROW applications for wind and solar energy facilities. Isolated locations within the planning area may be suitable for wind power development provided that suitable topographic locations, access to the power grid, and transmission line ROWs could be developed economically. The planning area may be suitable for solar power development provided that accessibility to suitable topographic locations, cost reduction in installation and distribution of electricity, access to the power grid and transmission line ROWs, and technological advancement in more efficient systems are obtainable.

Wind

The BLM currently has three authorized wind testing projects listed in **Table 3-38, Current Wind Testing Projects in the Planning Area**. These projects could result in up to 11,297 acres of potential wind development if the testing data show that the areas are viable and the proponents proceed with energy development.

Table 3-38
Current Wind Testing Projects in the Planning Area

Serial Number	Customer Name	Project Name and Area	Case Type
NVN 090984	Comstock Wind Energy, LLC	SW Virginia Range testing	Testing Type 2
NVN 090986	Carson River Wind Energy, LLC	Talapoosa/Eagle Ridge	Testing Type 2

The projects are set to expire at the end of 2015. Under current wind energy regulations, testing projects cannot be renewed unless the application to renew is accompanied by an application for development (and a Plan of Development).

The BLM also has a number of pending wind testing applications where no authorization has been granted. Many projects are currently awaiting decisions to be made on resource concerns surrounding raptors (including eagles) and two types of sage-grouse and the protection of its habitat.

Solar

National Renewable Energy Laboratory data shows that portions of the planning area have high potential for solar energy, especially Lyon and Mineral Counties (NREL 2013). Luning Solar was issued a ROW grant for a 575-acre project on July 15, 2010, but construction has not yet started. The BLM also has a pending ROW application for a solar development near Naval Air Station Fallon. However, the BLM-administered land that the proposed plan would affect is in a possible land tenure adjustment area; thus, grant processing has been on hold pending land status decisions.

Biomass and Hydropower

There are no biomass production facilities and no pending applications for biomass production within the planning area. There are numerous ways of using organic matter to directly generate power and heat, process it into fuels, or convert it to organically derived chemicals and other materials. Biomass sources are quite varied and include agricultural food and feed crops, crop waste and residue, wood waste and residues, animal waste, and municipal wastes.

Although there are some hydropower facilities on withdrawn lands, there are no hydropower facilities on BLM-administered lands within the planning area. The potential for additional hydropower generation in the planning area is low, except for retrofitting existing water pipelines.

Resource Changes*Wind*

It is difficult to predict what effect pending decisions regarding Greater sage-grouse will have on wind projects. Applicants have already been withdrawing applications and cancelling projects in areas that are expected to be designated as key sage-grouse habitat.

Solar

The planning area has high potential for solar energy. The 2012 BLM Solar Programmatic EIS identified solar variance areas within the planning area. Variance areas are BLM-administered lands outside of solar energy zones that are available for utility-scale (more than 20 megawatt) solar energy development, but where the development would be considered on a case-by-case basis and in accordance with the variance process described in the Solar Programmatic EIS (BLM 2012L). However, major power lines for distribution remain a challenge. As described above, the BLM has been approached about the co-location of solar and geothermal projects. Due to solar having a relatively quick turnaround from application to development (1 to 3 years in some instances), whereas geothermal having a longer development timeline to production (typically 5 to 7 years), it is possible that hybrid solar-geothermal projects in the same lease area will be seen in the near future.

As solar energy generating equipment becomes less expensive and new technologies emerge, collocation of solar on roof-tops will likely become more prevalent. Communication facilities on the CCD often use solar panels on mountain tops with no power lines as a viable alternative, or even as back-up for power line failures. It can be reasonably expected that this type of solar use (ancillary to existing and proposed projects) will continue in the future.

Biomass and Hydropower

The BLM has been approached regarding a reservoir/fore bay approach to hydroelectric power. The reservoir/fore bay approach involves the storage of water to run through turbines to a lower reservoir during peak surges – with pumping occurring in off-times to replenish the upper reservoir from the fore bay, thereby producing energy. However, no formal application has been received.

Due to water rights allocation issues and the arid climate, hydropower is not expected to experience any new development potential in the planning area.

3.4 SPECIAL DESIGNATIONS

This section is a description of the special designation areas in the planning area and follows the order of topics addressed in **Chapter 2**:

- Areas of Critical Environmental Concern
- Back County Byways
- National Trails
- Wild and Scenic Rivers
- Wilderness Study Areas

3.4.1 Areas of Critical Environmental Concern

An ACEC is defined in the FLPMA, Public Law 94-579, Section 103(a) as an area within the BLM-administered lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, geologic, paleontological, or scenic values, to fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards. Regulations for implementing the ACEC provisions of the FLPMA are found at 43 CFR Part 1610.7-2.

The ACEC designation is an administrative designation that is accomplished through the land use planning process. It is unique to the BLM in that no other agency uses this form of designation. Nominations for the establishment of an ACEC can be made internally by the BLM or externally by the public or special interest groups, and only BLM-administered lands are included in ACEC boundaries. During the planning process, the BLM evaluates each nominated area to determine if it meets the relevance and importance criteria found in 43

CFR Part 1610-7-2(a)(b) and as defined in BLM Manual 1613, Areas of Critical Environmental Concern (BLM 1988a).

ACECs differ from other special management designations in that designation by itself does not automatically prohibit or restrict other uses in the area. The special management attention is designed specifically for the relevant and important values and, therefore, varies from area to area. Restrictions that arise from an ACEC designation are determined at the time the designation is made and are designed to protect the values or serve the purposes for which the designation was made. The BLM identifies goals, standards, and objectives for each proposed ACEC as well as general management practices and uses, including necessary constraints and mitigation measures. The EIS identifies a reasonable range of alternatives that includes current management of existing ACECs, as well as management for proposed ACECs. In addition, ACECs are protected by the provisions of 43 CFR Part 3809.1-4(b)(3), which require an approved plan of operations for activities resulting in more than 5 acres of disturbance under the mining laws.

Current Conditions

Existing ACECs

There are 6 ACECs totaling 21,800 acres of BLM-administered land in the planning area (**Figure 2-94**, Alternative A: Areas of Critical Environmental Concern). The size of each area and the values it is designed to protect are listed in **Table 3-39**, Areas of Critical Environmental Concern. Currently, activity-level management plans for most of the ACECs have not been completed or are in need of updating to reflect the impacts from surrounding development or resource uses. During the planning process, existing ACECs are being reevaluated to ensure the relevance and importance criteria are still present and require continued management attention; whether threats of irreparable damage to the values have been identified; and whether current management is sufficient to protect these values.

Table 3-39
Areas of Critical Environmental Concern

ACEC	Acres	Relevant and Important Value
Carson Wandering Skipper	330	Biological
Incandescent Rocks Natural Scenic	1,075	Scenic
Pah Rah High Basin (Dry Lakes)	3,881	Cultural
Petroglyph		
Steamboat Hot Springs Geyser Basin	40	Unique Geologic Feature
Stewart Valley Fossil Site	16,000	Paleontological
Virginia Range Williams Combleaf	473	Biological
<i>Total</i>	<i>21,799</i>	

Carson Wandering Skipper. The Carson Wandering Skipper ACEC is a 330-acre site approximately 25 miles north of the Reno-Sparks area along Winnemucca Ranch Road. The significance of this site revolves around the federally endangered Carson wandering skipper, a small butterfly that occupies grassland habitat on alkaline substrate in California and Nevada. This area is one of only four known populations for this subspecies that provides the essential habitat for their existence. The ACEC serves to protect the habitat from agricultural use and the expanding residential and commercial development from Reno and Sparks to the south. This site was designated an ACEC by the Southern Washoe County Plan Amendment signed in 2001 (BLM 2001b).

Incandescent Rocks Natural Scenic. The Incandescent Rocks ACEC is a 1,072-acre site located in southern Washoe County approximately 25 miles north of the Reno-Sparks area and 5 miles west of Pyramid Lake. The significance of the site centers on the rhyolitic outcrops and ridges that are characterized by red, yellow, orange, and purple hues that appear to fluoresce or glow as light reflects off the walls. The ACEC was designated through the Reno Management Framework Plan in 1983 (BLM 1983) and incorporated into the Lahontan Resource Management Plan in 1984 (BLM 1984b). An ACEC management plan was completed in 1988 with the objective of preserving and protecting the natural integrity and scenic resources of the area (BLM 1988a). Potential threats to the resource were identified as being OHV use and mineral exploration and extraction.

Pah Rah High Basin (Dry Lakes) Petroglyph. The Pah Rah High Basin (Dry Lakes) Petroglyph ACEC is a 3,881-acre site north of Highway 80 East and approximately 6 miles northeast of Sparks, Nevada. The significance and relevance of this site is primarily cultural but also includes historical and scenic values. Evidence indicating the site was used by Native Americans for over 3,500 years includes petroglyphs, rock rings, stone artifacts, as well as seasonal and residential camps. This site is culturally significant to both the Southern Washoe and Northern Paiute tribes. The objective of the ACEC, which was established by the Southern Washoe County Plan Amendment in 2001 (BLM 2001b), is to protect the site from urban expansion, increased recreational use of OHVs, theft of artifacts, and acts of vandalism.

Steamboat Hot Springs Geyser Basin. The Steamboat Hot Springs Geyser Basin ACEC is a 40-acre site northeast of Washoe Lake and 0.5 mile west of Highway 395 between Carson City and Reno. The ACEC was designated in the 1983 Reno Management Framework Plan (BLM 1983) and was established to protect and interpret the unique geyser field and related thermal features found at Steamboat Hot Springs. At one time, the geysers were considered to be the third most active geyser area in the US, but the formerly active geysers have reportedly become inactive resulting in the cessation of hot water flowing upon the surface. Steamboat Hot Springs also contains the federally endangered Steamboat buckwheat, and the BLM sensitive species Altered andesite

buckwheat. Both species are restricted to substrates derived from hot springs deposits in the Steamboat Hills. These species indirectly benefit from being within the ACEC; however, there are no special management goals for the plants within the ACEC management plan.

Stewart Valley Fossil Site. The Stewart Valley ACEC is a 16,000-acre paleontological site in the east-central part of Mineral County within the Stillwater Field Office. The ACEC was officially designated as a Research Natural Area in the land use planning process through the Walker Resource Management Plan in 1986 (BLM 1986c). The site is situated within a basin formed by the uplifted fault-block system typical of the Basin and Range physiographic province. The ancient lake bed that was formed by the uplifting is filled with sediments from the Miocene age and includes fossil specimens of mammals, clams, snails, fish, insects, pollen, and leaves. An ACEC management plan was completed in September 1990, with the objective of protecting fossil resources while allowing the continuation of authorized scientific study (BLM 1990). The plan restricted recreational activities, limited vehicles to designated roads and trails, prohibited the hobby or commercial collection of fossils, and provided for a mineral entry withdrawal of 1,420 acres for the most sensitive portion of the ACEC. Due to a 20-year regulatory limitation, the withdrawal automatically expired on January 9, 2010.

Virginia Range Williams Combleaf. The Virginia Range Williams Combleaf ACEC is a 473-acre site northeast of Washoe Lake 2 miles east of Highway 395 between Carson City and Reno. This site was designated an ACEC by the 2001 Southern Washoe County Plan Amendment (BLM 2001b) and was established for the Williams combleaf, a plant of the mustard family that is a State of Nevada critically endangered species and a BLM sensitive species. Essential habitat encompasses barren sandy or clay soils around the margins of seasonal pools or lakes. The objective of the ACEC designation was to preserve the habitat from indiscriminant OHV use, livestock grazing, and water diversions. A conservation agreement was entered into between the BLM and USFWS in 1997 to provide long-term protection for Williams combleaf as an action to preclude listing the species under the Endangered Species Act, however the agreement has expired.

Potential ACECs

In accordance with BLM Manual 1613, Areas of Critical Environmental Concern (BLM 1988a), the Interdisciplinary Team reviewed internal and external nominations received during the RMP revision process to determine whether any areas should be considered for designation as ACECs. Areas determined to meet the relevance and importance criteria, as defined by 43 CFR Part 1610.7-2(a)(1) and 43 CFR Part 1610.7-2(a)(2), and guidance in BLM Manual 1613 (BLM 1988a), are provided temporary management to protect human life and safety or significant resource values from degradation until the area is fully evaluated through the RMP process.

Twenty-two nominations were determined to meet relevance and importance criteria to be considered as potential ACECs. The areas and associated values are displayed in **Table 3-40**, Potential Areas of Critical Environmental Concern. Details of the evaluation process can be found in the Areas of Critical Environmental Concern Report on the Application of the Relevance and Importance Criteria (BLM 2013b).

Table 3-40
Potential Areas of Critical Environmental Concern

Potential ACEC	Acres	Relevant and Important Value(s)
Black Mountain/Pistone Archaeological District	3,414	Cultural
Carson Wandering Skipper ¹	330	Wildlife
Churchill Narrows Buckwheat Botanical	6,428	Botanical
Clan Alpine Greater Sage-Grouse	98,428	Wildlife
Desatoya Greater Sage-Grouse	105,058	Wildlife
Dixie Valley Toad	413	Wildlife
Fox Peak Cultural	48,391	Cultural
Greater Sand Mountain	17,066	Unique Feature, Historical, Cultural, Biological
Grimes Point Archaeological	15,877	Cultural
Incandescent Rocks Scenic ¹	1,103	Scenic
Lassen Red Rock Scenic	757	Scenic
Namazii Wunu Cultural	158,264	Cultural
Pah Rah High Basin (Dry Lakes) Petroglyph ¹	5,260	Cultural
Pine Nut Bi-State Sage-Grouse	100,415	Wildlife
Pine Nut Mountains Williams Combleaf Botanical	317	Botanical
Ruhenstroth Paleontological	2,334	Paleontological
Sand Springs Desert Study Area	55	Historic
Steamboat Buckwheat Botanical	80	Botanical
Stewart Valley Paleontological ²	15,930	Paleontological
Tagim aša Cultural	81,753	Cultural
Virginia City National Landmark Historic District	14,700	Historical
Virginia Mountains Greater Sage-Grouse	105,206	Wildlife
<i>Total</i>	<i>781,571</i>	

Source: BLM GIS 2014a

¹Potential ACEC is also an existing ACEC but the boundary for evaluation was expanded

²Potential ACEC is also an existing ACEC but the boundary for evaluation was reduced

3.4.2 Back Country Byways

The BLM began a National Back Country Byway program in 1989 to focus on enhancing recreational opportunities. A Scenic Byway System was created 2 years later under Section 1047 of the Intermodal Surface Transportation Efficiency Act of 1991. The Intermodal Surface Transportation Efficiency Act recognized the BLM Back Country and Scenic Byways as a component of the national scenic byway system.

Current Conditions

The BLM manages one back country byway in the planning area: the Fort Churchill to Wellington Back Country Byway (**Figure 2-99**, Alternative A: National Trails and Back Country Byways). This byway is a 67-mile paved, gravel, and natural surface road that provides a scenic, though in some sections, a very challenging drive through the foothills of the Pine Nut Mountains. The byway begins at Fort Churchill, 35 miles east of Carson City. Fort Churchill was established in 1860 to protect the Pony Express mail line. In 1957, the fort became part of the Nevada State Park system. Leaving Fort Churchill the Back Country Byway heads west on Nevada State Route 2B (graded gravel) for 21 miles along the Carson River to Dayton. The Back Country Byway then turns south at Dayton and extends 29 miles through the rugged Pine Nut Mountains, climbing steeply above Eldorado Canyon and passing through the Como Mining District, finally dropping down to Wellington on Nevada State Route 208. These roads can be rough and muddy. Four-wheel drive or high clearance vehicles are recommended for the climb over the Pine Nut Mountains and it takes approximately 4 to 5 hours to drive the length of the Back Country Byway. In addition to its proximity to Carson City, Reno, and the Tahoe area, active promotion of this byway has been via maps, brochures, and interpretive kiosks at either ends of the byway. Local visitors familiar with the area constitute the majority of recreation use. These visitors are generally comfortable with the experience and enjoy the seclusion and the panoramic scenery of the Pine Nut Mountains and the Sierras to the west and the experience, opportunities, and benefits that come from the local areas accessible via the byway. However, outdoor enthusiasts unfamiliar with the area can become intimidated by the type II and III road conditions and limited signage. Hazardous road conditions along this route include a narrow running surface, deep ruts, steep rocky slopes, and soil types that become extremely muddy and slippery during times of both inclement weather and light rain. The route is impassable during the winter season.

Resource Changes

Multiple-use resource activities have remained limited within the corridor of the byway. Visual intrusions along the byway do not disrupt the overall character of landscape. However, impacts of dispersed recreation, including OHV use, are becoming apparent and can be attributed to the popularity of the area during the hunting season.

3.4.3 National Trails

The National Trails System is the network of scenic, historic, and recreation trails created by the National Trails System Act of 1968. These trails provide for outdoor recreation needs, promote the enjoyment, appreciation, and preservation of outdoor areas and historic resources, and encourage public access and citizen involvement.

National Historic Trails are extended trails that closely follow a historic trail or route of travel of national significance. Designation identifies and protects historic routes, historic remnants, and artifacts for public use and enjoyment. Trails must meet the following three criteria listed in Section 5(b)(11) of the National Trails System Act:

- The trail must follow actual documented route of historic use.
- The trail must be of national significance.
- The trail must possess significant potential for public recreation or interpretation.

Many of the pioneer trails and other historic routes that are important in our Nation's past have been designated by Congress as national historic trails. National historic trails are specifically designated areas in the US containing the route of nationally and historically significant trail and areas adjacent to the trails to be utilized for scenic, historic, natural, cultural, or developmental purposes. National historic trails along roadless segments have a generally greater potential for public recreational use or historic interpretation and appreciation. Today, only Congress can designate new national historic trails.

National recreation trails provide for a variety of outdoor recreation uses in or near urban areas and are established by the Secretary of the Interior.

Current Conditions

The BLM has two congressionally designated national historic trails: the California National Historic Trail and the Pony Express National Historic Trail (see **Figure 2-99**, Alternative A: National Trails and Back Country Byways).

While most of the old wagon roads and routes are not open to motorized traffic, visitors can drive along modern highways or roads that either retrace segments of the original trail or closely parallel it.

The Pony Express National Historic Trail extends over 1,900 miles from Saint Joseph, Missouri, to Sacramento, California, with the segment from New Pass (eastern Churchill County) to Woodfords, California, bisecting the planning area. The trail was used for mail delivery service with riders on horseback for 18 months between April 1860 and October 1861, prior to the establishment of the transcontinental telegraph line. The purposes of the National Historic Trail are to identify, preserve, and explain the sites, route, and history of the Pony Express for all people to experience and understand and to commemorate the rapid mail delivery that linked eastern and western states (NPS 1999). Trail resources, qualities, values, and setting are described in the 1999 Comprehensive Management Plan (NPS 1999).

Although the exact tread of this short-lived horse trail does not remain at any point along this approximately 130 miles of route within the planning area (92.2

miles on BLM administered land), the corridor is relatively well-known and mapped. There are no identified high-potential route segments in the planning area. In addition, two extant stations on BLM-administered lands in Churchill County remain at Cold Springs and Sand Springs; both are listed on the National Register of Historic Places. The 1999 Comprehensive Management Plan describes Cold Springs and Sand Springs as follows (NPS 1999, Appendix F, p. 266):

Cold Springs Station was hurriedly constructed by Bolivar Roberts, J. G. Kelly, and their crew in March 1860 as they prepared for the first run of the Pony Express. The station was repeatedly attacked by Indians. When Richard Burton reached the station in October 1860, he found “a wretched place, half built and wholly unroofed; the four boys, an exceedingly rough set, ate standing, and neither paper nor pencil was known among them.” Today, remnants of thick stone walls, complete with windows, gun ports, and a fireplace, identify the station. The ruins of a corral can be found nearby. As in Burton’s day, the structure has no roof. The station has been structurally stabilized for preservation and safety reasons.

Boliver Roberts and crew also built Sand Springs Station in March 1860. Travelers found a reliable source of water at Sand Springs, but its poor quality often poisoned animals and probably made people ill. Richard Burton recorded his negative reaction to the place: it was “roofless and chairless, filthy and squalid, with a smoky fire in one corner, and a table in the center of an impure floor, the walls open to every wind, and the interior full of dust.” In addition to the Pony Express, the site served as a telegraph, freight, milling, and ranching center. Structural ruins from many of these activities still exist and the station remains have been stabilized.

The California National Historic Trail extends from the vicinity of Omaha, Nebraska, and Saint Joseph, Missouri, to various points in California, and it includes dozens of trail segments. Two major segments pass through the CCD and parallel the Carson and Truckee Rivers. In all, nearly 300 miles of route cross the planning area (25.3 miles on BLM-administered land), with several segments of trail ruts and traces evident.

The only designated national recreation trail within the planning area is the Grimes Point Interpretive Trail, which is a 0.75-mile, self-guided interpretive trail (see **Figure 2-99**, Alternative A: National Trails and Back Country Byways). It was constructed by the Youth Conservation Corps and designated Nevada’s first national recreation trail in 1978. The trail is situated within the Grimes Point Archaeological Area 12 miles east of Fallon off of Highway 50 and is easily accessible by the traveling public. Hikers can view examples of petroglyph rock art at one of the largest known petroglyph sites in the US. The

rock art was created by Native Americans an estimated 8,000 to 9,000 years ago along the ancient Lake Lahontan shoreline.

3.4.4 Wild and Scenic Rivers

Wild and scenic rivers (WSRs) are streams or segments of streams designated by Congress under the authority of the Wild and Scenic Rivers Act of 1968 (Public Law 90-542, as amended; 16 USC 1271-1287) for the purpose of preserving the stream or stream section in its free-flowing condition, preserving water quality, and protecting its outstandingly remarkable values. Outstandingly remarkable values are identified on a segment-specific basis and may include scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.

Section 5(d)(1) of the Wild and Scenic Rivers Act directs federal agencies to consider potential WSRs in their land and water planning process. To fulfill this requirement, the BLM evaluates streams when developing or revising its RMPs. In order to fulfill its obligations under Section 5(d)(1) of the Wild and Scenic Rivers Act, the CCD is considering the eligibility and suitability of streams in the planning area for inclusion in the National Wild and Scenic Rivers System (NWSRS).

Determination of Wild and Scenic River Eligibility

The initial step in the eligibility phase of the WSR analysis is to generate an inventory of all streams within the evaluation area. Every known stream with a perennial or intermittent flow regime within the planning area was identified using a variety of BLM and other data sources. Some waterways were further segmented based on differences in level of development, physiographic character, land status, or the existence of in-channel diversions or dams.

The stream segments were then evaluated to determine whether they meet the dual criteria of being free-flowing and possessing one or more outstandingly remarkable values, as defined in the Wild and Scenic Rivers Act. Eligible segments were preliminarily classified as wild, scenic, or recreational based on water quality and level of human development along the river corridor.

The Wild and Scenic River Eligibility Report (BLM 2013c) details stream segments determined to be eligible for inclusion in the NWSRS, as defined by the Wild and Scenic Rivers Act of 1968. The final eligibility report also lists all streams within the planning area that were evaluated and found to be not eligible, along with supporting rationale. The report is available at the CCD in Carson City, Nevada, and on the CCD RMP Revision website.

Determination of Wild and Scenic River Suitability

Three stream segments along the East Fork of the Carson River were inventoried and found to be eligible for inclusion in the NWSRS and are carried forward to the suitability phase of the WSR river analysis. The suitability phase considers tradeoffs between corridor development and stream protection by

applying 13 criteria to each eligible segment. The Wild and Scenic Rivers Suitability Report details the suitability study process and the draft suitability determinations for each segment (February 2013). A final determination of suitability will be issued in the record of decision for the RMP.

Current Conditions

There are no streams in the planning area designated as a Wild and Scenic River. The Humboldt-Toiyabe National Forest has performed a WSR eligibility study and has determined the following segments contiguous with the planning area to be eligible for inclusion in the NWSRS; a suitability study has not yet been completed (Forest Service 2007):

- East Fork of the Carson River from the headwaters downstream to the diversion dam in Nevada near the Lahontan National Fish Hatchery
- West Walker River from the headwaters to the town of Walker
- East Walker River from the headwaters downstream to the BLM/Forest Service border in Nevada.

After evaluating all streams identified during the inventory phase, the East Fork of the Carson River, separated into three segments, was determined to be free-flowing and possess one or more outstandingly remarkable values necessary to be eligible for inclusion in the NWSRS. The three stream segments are carried forward for suitability analysis (**Figure 2-105**, Alternative A: Wild and Scenic Rivers). **Table 3-41**, Eligible Stream Segments, shows those eligible segments in the planning area being studied for suitability analysis, the identified outstandingly remarkable values associated with each segment, and the preliminary classification assigned to each segment.

Table 3-41
Eligible Stream Segments

East Fork Carson River Segment	Length on BLM-administered Land (miles)	Area on BLM-administered Land (acres)	Tentative Classification	Outstandingly Remarkable Values
Segment 1	1.51	400	Wild	Recreation, Scenic, Fish
Segment 2	1.03	400	Recreational	Recreation, Scenic, Fish, Geologic
Segment 3	1.97	600	Scenic	Recreation, Scenic, Fish, Geologic

Sources: BLM GIS 2014b

Resource Changes

A discussion of trends specific to each eligible segment can be found within the Wild and Scenic River Suitability Report.

3.4.5 Wilderness Study Areas

In 1964, Congress passed the Wilderness Act, thereby establishing a national system of lands for the purpose of preserving a representative sample of ecosystems in a natural condition for the benefit of future generations. Until 1976, most land considered for, and designated as, wilderness was managed by the National Park Service and Forest Service. With the passage of the FLPMA in 1976, Congress directed the BLM to inventory, study, and recommend BLM-administered lands under its administration that should be designated wilderness.

Section 603 of the FLPMA specifically required the BLM to provide Congress with recommendations as to the suitability or unsuitability of roadless areas greater than 5,000 acres and roadless islands for wilderness designation. Congress gave the BLM 15 years to complete the wilderness inventory, which was done on a state-by-state basis. Only Congress can decide which areas, if any, will be designated as wilderness and added to the National Wilderness Preservation System. In 1991, the Nevada BLM issued its final wilderness study reports that included discussion and recommendations for 110 WSAs throughout Nevada (BLM 1991). The recommendations were based on the findings of the 15-year wilderness study process that included each area's resource values, present and projected future uses, and manageability as wilderness; the environmental consequences of designating or not designating the areas as wilderness; mineral surveys; and public input. Until Congress acts on the recommendations and either designates them as wilderness or releases them for other uses, these areas are managed according to BLM Manual 6330, Management of Wilderness Study Areas (BLM 2012e) to preserve their wilderness values. Activities that would impair wilderness suitability are prohibited in WSAs. There are six primary provisions of the FLPMA with regard to interim management of WSAs:

- WSAs must be managed so as not to impair their suitability for preservation as wilderness.
- Activities that are permitted in WSAs must be temporary uses that create no new surface disturbance nor involve permanent placement of structures.
- Grazing, mining, and mineral leasing uses that existed on October 21, 1976, may continue in the same manner and degree as on that date, even if this would impair wilderness suitability of the WSAs.
- WSAs may not be closed to appropriation under the mining laws to preserve their wilderness character.
- Valid existing rights must be recognized.
- WSAs must be managed to prevent unnecessary or undue degradation.

In summary, WSAs must be managed in a manner that would not impair the suitability of the area for preservation as wilderness and to prevent unnecessary or undue degradation. Except for grandfathered uses and valid existing rights, permitted activities in WSAs are temporary uses that create no new surface disturbance and do not involve placement of permanent structures. Grandfathered uses include grazing, mining, and mineral leasing conducted in the manner and degree in which these uses were being conducted on October 21, 1976, as long as they do not cause unnecessary or undue degradation of the lands under wilderness review. Only Congress can designate a WSA as wilderness or release it from the protective mandate of Section 603 of the FLPMA. The status of these WSAs will not change as a result of this RMP revision.

The BLM's authority to conduct wilderness reviews, including establishing new WSAs, expired in 1991. However, the BLM has authority under Section 201 and 202 of the FLPMA to maintain an inventory of all BLM-administered lands and their resources, including wilderness characteristics, and to consider such information during land use planning. Through the land use planning process, the BLM will consider all available information to determine the mix of resource use and protection that best serves the FLPMA multiple use and sustained yield mandate. Wilderness characteristics findings are discussed in **Section 3.2.12, Lands with Wilderness Characteristics**.

Current Conditions

Nine WSAs lie completely or partially within the decision area (**Figure 2-104, Alternatives A, B, C, D, and E: Wilderness Study Areas**. Augusta Mountains, Burbank Canyon, Carson-Iceberg, Clan Alpine, Desatoya, Gabbs Valley, Job Peak, Slinkard, and Stillwater). The findings of the 1991 wilderness study report for areas within the planning area are shown in **Table 3-42, Wilderness Study Areas**. The acreages shown in the table are only for the portion of the WSA in the decision area. As such, acreage figures differ slightly from the 1991 study report and recommendation. The Augusta Mountains WSA lies within three field offices and is managed by the Humboldt River Field Office in the Winnemucca District. A portion of the Desatoya WSA lies within the Battle Mountain District Office and is managed by that district.

With the increase in demand for consumptive and non-consumptive resources and an increase in urbanization and residential development, the WSAs provide unique niches that are still mostly preserved in their natural and primitive state. With the exception of cherry-stemmed roads or primitive routes (linear transportation features that were created solely by the passage of vehicles that were identified at the time of the WSA designation), these areas are closed to motorized travel. Examples of allowable uses include hunting, camping, equestrian use, and hiking.

Table 3-42
Wilderness Study Areas

WSA	Total Acres	Acres Recommended Suitable for Wilderness Designation	Acres Recommended Not-Suitable for Wilderness Designation
Augusta Mountains ¹	46,400	0	46,400
Burbank Canyons	12,700	0	12,700
Carson-Iceberg	500	500	0
Clan Alpine Mountains	195,700	68,000	127,700
Desatoya Mountains	42,200	34,300	7,900
Gabbs Valley Range	80,500	0	80,500
Job Peak	89,400	0	89,400
Slinkard	2,400	0	2,400
Stillwater Range	94,200	0	94,200
<i>Total</i>	<i>564,000</i>	<i>102,800</i>	<i>461,200</i>

Source: BLM GIS 2014a

Note: Acres are for BLM-administered lands in the decision area only

¹The Humboldt River Field Office manages the Augusta Mountains WSA

Augusta Mountains WSA

The Augusta Mountain WSA (NV-030-108) is located in three Nevada counties: southeast Pershing, northeast Churchill, and western Lander. The WSA is approximately 60 miles southeast of Winnemucca, Nevada, and a 5-hour drive from Reno, Nevada. The WSA includes 89,400 acres of BLM-administered lands (46,400 acres on BLM-administered lands in the decision area) and no private or state inholdings. The boundary follows the Home Station Ranch Roads on the north and west sides and utilizes two mine access roads on the south and east sides. At its maximum dimensions, the Augusta Mountain WSA ranges from 17 miles in a north-south direction to 13 miles in an east-west direction. The elevation ranges from 3,400 feet to 8,400 feet.

The WSA straddles a north-south ridge of the Augusta Mountain Range. The northern portion is a landscape of silicic ashflow tuff canyons and drainages. Isolated patches of pinyon-juniper are scattered through the area. The central section encompasses Cain Mountain, a limestone peak, which is the highest point of the WSA. The mountain drains in all directions via rugged, deep drainages, Favret Canyon being the largest. The canyons have fossils and are blocked by intermittent waterfalls, with dense pinyon-juniper stands in the upper reaches.

The southern portion of the WSA is uniformly hilly with shallow southwest draining washes and gullies and gently sloping foothills vegetated with low sagebrush and rabbitbrush. There are approximately 1,000 acres of pinyon-juniper woodland covering slopes above 6,600 feet.

Burbank Canyon WSA

The Burbank Canyons WSA (NV-030-525a) is primarily in Douglas County, Nevada, 5 miles northwest of Wellington and 15 miles southeast of Gardnerville. Approximately 1,065 acres along the eastern edge of the study area are in Lyon County, Nevada. Boundaries of the WSA coincide with roads and private property boundaries in Red Canyon on the north, along the foot of the Pine Nut Mountains on the east, in Rickey and Wedertz Canyons on the south, and along the ridge of Bald Mountain on the west. The WSA was designated as a scenic area and is closed to OHV travel, which would remain in place should the WSA be released by Congress from consideration as wilderness.

Carson-Iceberg WSA

The Carson-Iceberg WSA (NV-030-532) lies in Alpine County near the middle of the eastern edge of California, approximately 30 miles southeast of South Lake Tahoe and 90 miles east of Sacramento. This WSA includes 550 acres of BLM-administered lands and no state or private inholdings. It is bounded on the west and south sides by the Humboldt-Toiyabe National Forest and the Carson Iceberg Wilderness, on the north and southeast sides by private lands, and on the northeast by an unpaved road on BLM-administered lands.

The WSA comprises a mixed coniferous forest on both sides of the East Fork of the Carson River in the Eastern Sierra Nevada. The river flows northerly through a rugged, winding canyon for one-and-a-half miles in the WSA. The meadows of Silver King Valley flank the WSA to the east at an elevation of 6,400 feet, while the 7,000-foot western side of the WSA is surrounded by higher-elevation coniferous forest in the 154,000-acre Carson Iceberg Wilderness.

Clan Alpine WSA

The Clan Alpine Mountains WSA (NV-030-102) is in Churchill County in west central Nevada. The WSA includes 195,700 acres of BLM-administered lands. Although private lands form a portion of the WSA boundary, there are no private inholdings. The WSA is bounded by County Road 376, private lands, and roads on the east, and a road and section lines on the north. Three roads and a power line comprise the southern boundary, while a combination of section lines and dirt roads form the boundary on the west.

Desatoya WSA

The Desatoya Mountains WSA (NV-030-110/060-288) lies along the Churchill County/Lander County line, with the majority of the WSA found in the southeast corner of Churchill County, Nevada. The WSA includes 51,300 acres of BLM-administered lands (42,200 acres in the decision area). There are 120 acres of private inholdings. The area is bounded by the Carroll Summit Highway (Old US Highway 50) and a section line on the south, and section lines and a short stretch of US Highway 50 on the west. A power line and three dirt roads

comprise the northern boundary, while a combination of private property lines and dirt roads form the boundary on the east.

Gabbs Valley WSA

The Gabbs Valley Range WSA (NV-030-407) is located in Mineral County, 30 miles east of Hawthorne, Nevada. The WSA contains 80,500 acres of BLM-administered lands and one 40-acre private inholding. Three other private parcels are nearly surrounded by the WSA and were excluded (cherry-stemmed) from the WSA. The WSA is bounded on the northwest by roads and mining disturbance around Poinsettia Spring Mine, and on the northeast side by a combination of the main Finger Rock Wash Road, lesser roads, mining disturbance near roads, and by a private property boundary. The remaining boundary around the southern end of the unit is composed of a combination of State Highway 23, the main road in Petrified Wash, lesser roads, mining disturbances, and private property boundaries. The WSA is approximately 16 miles in length from north to south and varies in width from 3 to 15 miles east to west.

Job Peak WSA

The Job Peak WSA (NV-030-127) is in Churchill County in west-central Nevada. The WSA includes 90,200 acres of BLM-administered lands (89,400 acres in the decision area). There are no private inholdings within its boundary. The WSA is bounded by County Road 399, the Mountain Well road, and the West Job Canyon road on the west, while the Poco Canyon road and 4 miles of unnamed dirt roads constitute the northern boundary. County Road 380 and a portion of the Dixie Valley fault scarp form the eastern boundary. On the south the boundary follows the Elevenmile Canyon road, the Sheep Canyon road and a fence line connecting these roads. The Job Peak WSA includes roughly the southern third of the Stillwater Mountain Range.

Slinkard WSA

The Slinkard WSA (NV-030-531/CA-010-105) is in northern Mono County and northeastern Alpine County, approximately 7 miles north and west of Topaz, California. This WSA includes 6,300 acres of BLM-administered land (2,400 acres in the decision area); 422 of these acres are split-estate lands (surface managed by the BLM, subsurface owned by non-BLM entity). There are neither state lands nor private inholdings within the WSA. The portion of Slinkard WSA within the decision area is closed to motorized travel (BLM 2007c).

The northern boundary of this WSA follows the Humboldt-Toiyabe National Forest boundary east until it intersects State Highway 89. The boundary follows the meandering highway to the vehicle route that enters the northern end of Slinkard Valley. The boundary proceeds south along the vehicle route and veers west and south in an irregular pattern around private land. The boundary turns and proceeds west for 1 mile along the northwestern tip of the Carson-Iceberg Wilderness. The boundary turns north and follows private land, contour

features including canyons, and on the Mono/Alpine County line until it reaches the Humboldt-Toiyabe National Forest boundary 0.75 mile south of Monitor Pass.

This WSA lies at the extreme eastern edge of the Sierra Nevada geomorphic province and consists of a north-south trending mountain range, which is dissected by numerous drainages and canyons. The eastern slope is rugged and steep, while the western slope is more gentle and moderate. Elevation ranges from 6,800 feet to 8,938 feet. A tributary of Slinkard Creek is in the northern end of the unit. Vegetation in the unit consists of Great Basin shrubs and perennial grasses. Dense stands of pinyon-juniper, white fir, quaking aspen, and Jeffrey pine occupy the unit.

Stillwater WSA

The Stillwater Range WSA (NV-030-104) is in Churchill County in west-central Nevada. The WSA includes 94,600 acres of BLM-administered lands (94,200 acres in the decision area) and 620 acres of private inholdings within its boundaries. The WSA is bounded by County Road 399 and section lines on the west and the Copper Kettle and White Rock Canyon roads, as well as 3 miles of unnamed dirt roads, on the north. County Road 380 and private lands form the eastern boundary, and the southern boundary follows the Cox and Silver Hill Canyon roads. The Stillwater Range WSA includes roughly the central third of the Stillwater Mountain Range.

Resource Changes

Over the years, bills have been introduced in both chambers of Congress that would release all current WSAs that have been identified as not suitable for wilderness designation, most recently in 2011 (HRI581 and SBI087, Wilderness and Roadless Area Release Act of 2011).

In 2009, Douglas County submitted the Douglas County Conservation Bill to Congress, which contained a proposal to designate the Burbank Canyons WSA as a wilderness area.

3.5 SOCIAL AND ECONOMIC FEATURES

This section describes the social and economic features of the planning area and includes the following subsections:

- Tribal Interests
- Public Health and Safety
- Interpretation and Environmental Education
- Social and Economic Conditions
- Environmental Justice

3.5.1 Tribal Interests

The BLM is mandated to consult with Native American tribes concerning the identification of cultural values, religious beliefs, and traditional practices of Native American people that may be affected by actions on federal lands. The BLM has developed several sets of guidelines for consulting with Native American groups and evaluating cultural resources, with an emphasis on traditional use values. BLM Manual 8120 (BLM 2004c) and Handbook H-8120-1 (BLM 2004d) provide consultation requirements and procedural guidance to ensure that the consultation record demonstrates “that the responsible manager has made a reasonable and good faith effort to obtain and consider appropriate Native American input in decision making.” BLM Handbook H-8110 offers guidelines for determining authorized uses of a cultural resource, including considerations for traditional use values.

The BLM administers lands within the aboriginal territory of people identified based on commonality and differences in language and culture as Washoe, Northern Paiute, and Western Shoshone. Six tribal governments have reservations within the planning area, and four additional tribes hold reservation lands beyond the planning area boundary (see **Table 3-43**, Tribal Reservations within and near the Planning Area). Each of the 10 groups is a federally recognized Native American tribe (25 USC 479a). Each tribe, along with the California Native American Heritage Commission and the Inter-Tribal Council of Nevada, maintains a general concern for protection of and access to areas of traditional and religious importance, as well as the welfare of plants, animals, air, landforms, and water on reservation and BLM-administered lands. **Table 3-43** includes the geographic areas that CCD utilizes for consulting with tribal leaders and staff, recognizing that each tribe’s ancestral use areas may extend beyond the listed locations.

The Carson City Consolidated RMP (2001) and subsequent plan amendments do not specifically identify Native American interests as a topic separate from cultural resources. In the Carson City Consolidated RMP, “the view of Native Americans will be considered prior to BLM decisions or approvals that could result in changes in land use, physical changes to lands and resources, changes in access, or alienation of lands.” This captures some of the intent of current laws, regulations, and policies, but it does not describe the means for identifying and managing traditional and sacred sites, or for obtaining and utilizing the perspective of tribal people.

Topics consistently identified by tribes include access to natural, medicinal, and sacred resources and places. Traditional Cultural Properties and sacred sites, such as Black Point Petroglyph, Grimes Point, Hidden Cave, and several potential Traditional Cultural Properties in the Stillwater Range, have been identified by tribal representatives as areas that are important to a respective tribal cultural heritage and to families within the tribes.

Table 3-43
Tribal Reservations within and near the Planning Area

Tribe	Cultural Division(s)	General Location	Headquarters/ Established	CCD Geographic Area of Specific Concern
Bridgeport Paiute Indian Colony	Northern Paiute	Mono County, CA (outside of planning unit)	Bridgeport, CA (Reservation: 1972)	Stillwater Field Office and Sierra Front Field Office – Southern Lyon and Western Mineral Counties
Fallon Paiute-Shoshone Tribe	Northern Paiute and Western Shoshone	Churchill County, NV	Stillwater, NV (Reservation: 1902)	Stillwater Field Office and Sierra Front Field Office – Northeastern Lyon and Western Churchill Counties
Lovelock Colony	Northern Paiute	Pershing County, NV (outside of planning unit)	Lovelock, NV (Colony: 1910) Ties to Fort Bidwell, CA (Reservation: 1897)	Stillwater Field Office only – Northern Churchill County
Pyramid Lake Paiute Tribe	Northern Paiute	Washoe, Storey and Lyon Counties, NV	Nixon, NV (1859)	Sierra Front Field Office only – Northern Storey and Northern Lyon Counties; Washoe County north of I-80
Reno-Sparks Indian Colony	Northern Paiute, Washoe, Western Shoshone and other Tribes	Washoe County, NV	Reno, NV (Colony: 1917; Hungry Valley Community: 1986)	Sierra Front Field Office only – Northern Storey County and Washoe County from Truckee Meadows north
Susanville Indian Rancheria	Northern Paiute, Washoe, Atsugewi, Achumawi and Maidu	Plumas County, CA (outside of planning unit)	Susanville, CA (Allotments: 1923) Allotments	Sierra Front Field Office only – Plumas and Lassen Counties (CA); Washoe County west of Peterson Mountain and north of Fort Sage Mountains
Walker River Paiute Tribe	Northern Paiute	Churchill, Lyon, and Mineral Counties, NV	Schurz, NV (Reservation: 1859)	Stillwater Field Office and Sierra Front Field Office – Eastern Lyon, Western Churchill, and Northern Mineral Counties
Washoe Tribe of Nevada and California	Washoe	Alpine County, CA; Carson City and Douglas Counties, NV	Carson City, NV (Stewart Community: 1990; Carson Colony: 1916) Dresslerville, NV (Colony: 1917)	Sierra Front Field Office only – Alpine, Plumas, and Lassen Counties (CA); Washoe County west

Table 3-43
Tribal Reservations within and near the Planning Area

Tribe	Cultural Division(s)	General Location	Headquarters/ Established	CCD Geographic Area of Specific Concern
			Woodfords, CA (Colony: 1887) Pine Nut Mountain, NV Allotments: 1893-1930 Washoe-Paiute Timber Reserve, NV: 1859-1870	of Virginia Mountains; Carson City and Storey Counties; Douglas and Lyon Counties west of the Pine Nut Mountain crest
Yerington Paiute Tribe	Northern Paiute	Lyon County, NV	Yerington, NV (Colony: 1917; Campbell Ranch: 1936; Reservation: 1941) Washoe-Paiute Timber Reserve, NV: 1859-1870	Sierra Front Field Office and Stillwater Field Office – Lyon, Southern Storey, and Eastern Douglas Counties
Yomba Shoshone Tribe	Western Shoshone	Nye County, NV (outside of planning unit)	Reese River Valley, NV (Reservation: 1937)	Stillwater Field Office only – Eastern Churchill, Eastern Mineral, and Western Nye Counties

Each tribe maintains interest in specific cultural and traditional resources, tribal access locations, and heritage properties. Tribal concerns within the planning area may include, but are not limited to, specific places on the landscape where spiritual and ceremonial events occur or have previously occurred, known and unknown burial and cemetery sites, pre-contact or historic-era cultural resources, hot springs and geysers, and localities with difficult-to-find or special plant, animal, or mineral resources.

All tribes in the planning area have interest in access to ranges that contain pinyon pine nut gathering locations. This includes the Pine Nut Mountains, Desatoya Range, Stillwater Range, Clan Alpine Mountains, Wassuk Range, Virginia Range, and ranges beyond the planning area boundaries. Due to the 3- to 5-year production cycle of nut production, the tribal members go where there are pine nuts available, and specific locations that yield pine nuts one year will not be the location of use the following few years. Gathering includes both green and ripe cone harvesting. Some ranges, such as the Virginia and Flowery Ranges, have been used historically, but changes to land status and fire management have reduced the potential for using these locations for pine nut gathering.

The BLM manages the sensitive tribal information collected through consultation, including electronic and hard copy files, by utilizing a geospatial layer consistent with the management of BLM-administered lands. The geospatial layer of historic and current acquired tribal information would

facilitate the avoidance or mitigation for future projects, including visual effects on sacred sites and traditional cultural properties, during the planning phase of potential future projects.

Resource Changes

Trends

The desired condition of traditional places and resources on federal lands is that they remain stabilized and not adversely affected by natural and cultural processes, and that they are managed to allow maintenance of traditional connections. Like cultural resources discussed above in **Section 3.2.9**, the general current trend of the traditional places in the planning area is that those near the urban interface are subject to greater potential for damage, resource removal, or alteration from agents caused by people and their equipment. Those resources farther from urban or developed areas are relatively stabilized and are not, in large measure, being adversely affected.

Based on historic trends, large-scale and intense wildland fires can and will occur in western Nevada. Such fires, if they sweep through pinyon woodlands, would have an effect on the significant traditional resources of that area. Interest in mining gold and other minerals has gone up in recent years on both private and BLM-administered lands as the value of these commodities has increased. Current federal law and BLM management, regulations, and policies permit mining wherever it is legally allowable and where it does not adversely affect critical resources. However, as mining activities increase there could be more conflicts between proposed mining actions and traditional resources.

Qualitative observation indicates a downward trend in condition of known traditional places and resources that are not associated with formal surface-disturbing management proposals. Illegal removal of artifacts, alteration of rock art and constructed features, ground disturbance associated with recreational activity, limited law enforcement, and intensive grazing practices all contribute to the downward trend.

Forecast

Based on current management practices, improved access to BLM-administered lands, and increased urbanization, the forecast would be to continue this downward trend of traditional place and resource conditions due to the following factors:

- Greater potential for traditional place and resources being removed or damaged, due to increases in recreational and commercial usage, and limited law enforcement presence
- A likelihood for continued large-scale wildfires in the planning area resulting in resource damage

- Continued activities that result in damage or destruction of traditional places and resources on private, state, and non-BLM-administered lands
- Continued permitting of authorized actions by BLM (e.g., mining, grazing, and energy development) that contributes to traditional places and resources being affected.

3.5.2 Public Health and Safety

Abandoned Mines

Nevada is estimated to have approximately 165,000 abandoned mines, 50,000 of which are considered to be safety hazards. The Nevada Bureau of Minerals has identified and ranked approximately 8,000 abandoned mines according to the level of hazard they represent. More than 6,000 of these sites have been secured. Physical hazard sites are being secured at a rate of approximately 300 to 400 per year. Some abandoned mine sites also present an environmental hazard.

In March 1999, the BLM initiated the formation of an Interagency Nevada Abandoned Mine Lands Environmental Task Force (Abandoned Mine Task Force), which includes 10 state and federal agencies, to begin remediating environmental problems associated with abandoned and inactive mines. In certain mining districts, the planning area has numerous abandoned mine workings. Structures such as shafts, adits, winzes, tunnels, and pits pose safety hazards to the public. Hazardous materials and dynamite are also safety hazards at abandoned mine sites.

In 1999, the Abandoned Mine Taskforce identified 33 complex cleanup sites statewide, including nine within the planning area. The three highest ranked sites within the planning area were the Veta Grand Mine (high hazard ranking), the Nylene Mine (moderate hazard ranking), and the Seneca Gold site (moderate hazard ranking). These three sites have been cleaned up and are currently being monitored for effectiveness.

Several abandoned mine sites within the planning area continue to pose a physical safety hazard, the most significant of which is the American Flat Mill near Virginia City, Nevada. A 2008 audit of the site by Department of the Interior, Office of the Inspector General found the property to be a high-risk liability to the US Government. Presently, the BLM is preparing final plans for the demolition of the American Flat Mill which is anticipated to occur over the next few years.

Petroleum Waste and Hazardous Substances

Unauthorized disposal of petroleum waste and releases of hazardous substances occurs on BLM-administered land throughout the planning area, usually as a result of unauthorized dumping or in association with active or abandoned

mining or mill site claims. The BLM follows the National Contingency Plan (40 CFR Part 300) when dealing with releases of hazardous substances, which generally involves the timely removal of the hazardous substance. Removal of petroleum waste is performed in accordance with state and local laws and regulations, which also generally involve the timely removal of petroleum waste. A release could require a “removal” action for one drum of liquids, costing a few hundred dollars, up to a “remedial” action involving extensive studies and costing thousands (or millions) of dollars.

Because releases are not authorized on BLM-administered land and are generally removed upon discovery, an inventory of sites where hazardous substances and petroleum waste have been released is not maintained in the land use plan. If a parcel of land is to be disposed of, an evaluation pursuant to section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act is prepared. If a parcel of land is to be acquired, an evaluation is conducted in order to comply with the standards and practices for “all appropriate inquiry” pursuant to sections 101(35)(B)(i)(I) and 101(35)(B)(ii) of the Act.

Solid Waste

Unauthorized disposal of solid waste occurs on BLM-administered land throughout the planning area. As defined by the Resource Conservation and Recovery Act (42 USC 6901), solid waste includes any solid, liquid, semi-solid, or contained gaseous material that is deemed to be a waste. In the planning area, solid waste commonly includes abandoned piles of household garbage, bags of yard waste, discarded appliances, old barrels, lead from target shooting, used tires, and demolition debris that can threaten the health of humans and the environment. A few commonly found illegally dumped items such as vehicles, boats, trailers, and motor homes can be considered either solid waste or hazardous waste depending on the item’s condition and when it was reported and cleaned up. For example, rubber car tires or an intact fiberglass boat found in the desert does not pose much of a threat as a solid waste, but once the rubber tire or fiberglass has been burned, it becomes a hazardous waste. Concentrations of lead deposited by target shooters at informal shooting sites can also become a hazardous waste.

The number of solid waste illegal dump sites has not been quantified across the planning area. The majority of illegal solid waste dumping occurs on BLM-administered land in close proximity to the urban interface, but it is also common along transportation corridors, recreational shooting areas, and in nondesignated camping areas, which are dispersed throughout the planning area.

Recreational Shooting

Recreational shooting is commonplace throughout the planning area and is especially prevalent near areas of high population density. There are no designated shooting areas on BLM-administered lands and only a few public

shooting areas managed by local agencies. There are many sites on BLM-administered land historically known for dispersed target shooting. The BLM has made attempts in certain areas to make target shooting safer for the public and environment, often by encouraging target shooting in places where other recreational use is low. The BLM relies on the public to encourage safe shooting practices.

While recreational shooting is a legitimate activity on BLM-administered land, it poses a significant safety risk if not managed correctly. Conflicts arise regularly between shooting and other activities on BLM-administered land and with nearby private and tribal landowners. These conflicts include shooting across roads or trails, not having a backstop, shooting too close to homes or buildings, shooting in areas where there are high levels of other recreation activities, and shooting in sensitive areas like ACECs.

The use of airsoft and paintball guns has also increased in the planning area. These uses pose a risk of damage to sensitive resources (e.g., cultural resources) and may be restricted in those areas for protection of the resource.

Outdoor shooting ranges provide recreational facilities for shooting sports enthusiasts. Recently, there has been a growing public concern about the potential negative environmental and health effects of range operations. In particular, the public is concerned about potential risks associated with past and continued use of lead shot and bullets at outdoor ranges. The risk also exists in other areas where there is an accumulation of lead deposited by target shooting. Historically, the three major sources for human exposure to lead are lead-based paint, lead in dust and soil, and lead in drinking water. The main human exposure to lead associated with shooting ranges is through lead-contaminated soil. However, other pathways are discussed below, along with lead's detrimental effects on humans and animals. Lead can be introduced into the environment at shooting ranges in one or more of the following ways. Each of these pathways is site-specific and may or may not occur at each individual range:

- Lead oxidizes when exposed to air and dissolves when exposed to acidic water or soil.
- Lead bullets, bullet particles, or dissolved lead can be moved by storm water runoff.
- Dissolved lead can migrate through soils to groundwater.

Littering, unsafe target shooting, and illegal dumping have become major issues on federal lands where recreational shooting occurs (Responsive Management 2009). Many shooting areas are littered with garbage from illegal dumping. Some shooters leave behind fragments of clay pigeons and spent shotgun shells, as well as metal, plastic, and glass objects brought out for use as targets. Environmental

and property damage (e.g., release of refrigerants the atmosphere, the shooting of trees and signs) is also a significant problem.

There are no BLM rules regulating shooting or setting a standard for acceptable responsibility while shooting. Most of the counties in the planning area have limited ordinances regulating shooting activities. For example, Washoe County has the most restrictive regulations and prohibits shooting within 5,000 feet of an occupied dwelling.

Another significant risk associated with recreation shooting is wildland fire. Between 2000 and 2010, 34 percent of human-caused fires started on BLM-administered lands in Nevada were found to be caused by shooting (BLM, 2011a). The BLM has had numerous witnessed fire starts due to shooting with copper-jacketed lead and other ammunition. Due to the popularity of recreation shooting in the wildland-urban interface, wildland fires caused by shooting pose a significant threat to communities, recreational areas, grazing areas, and wildlife habitat. The increased popularity and use of explosive targets on BLM-administered lands has also been identified as a major factor in human caused fires.

Resource Changes

Abandoned Mines

It is expected that identifying and sealing, fencing, and signing unsafe abandoned mine sites and openings will continue at approximately the same rate as in recent years. Contaminated site remediation will occur based on hazard ranking and available funding. Abandoned mine closure may increase with the assistance of the mining industry, particularly in areas where renewed activity in former mining areas becomes economical.

Petroleum Waste and Hazardous Substances

The frequency of hazardous materials incidents in the past has mirrored the rate of economic activity and population growth, with economic boom and population growth usually resulting in more illegal dumping and more materials transportation accidents and accidental spills.

Solid Waste

Illegal dumping of solid waste is increasing as the local population grows and as dump fees at permitted sites increase.

Recreational Shooting

Requests for shooting closures are expected to increase in high-use areas, with increasing conflicts between users and concerns over safety.

3.5.3 Interpretation and Environmental Education

Interpretation is the voice for all BLM resource management programs. A well-developed program supports the goals and objectives of all resources and

programs by serving customers, promoting land health, and enhancing the public's enjoyment, understanding, and appreciation of the BLM-administered lands' natural and cultural resources and their management. An interpretive program reaches out to visitors across varied landscapes and serves visitors who are exploring many facets of BLM-administered lands.

Management issues are addressed within the interpretive story in a way that relates those issues to the visitors' experiences. Interpretive planning is done collaboratively with internal and external groups, and clear measurable objectives are established to gauge the cost/benefit and the program's effectiveness. The BLM's interpretive program aims to respect and serve people with diverse backgrounds and abilities.

The BLM reaches out to youth and adults with interpretive and environmental education experiences that inspire them to protect the landscape and support the district's multiple use and sustained yield management goals. This is accomplished through presentations, hands-on projects, and outreach using various types of media, including interpretive signs and Internet resources. The BLM has a draft district environmental education and interpretive strategy and is currently developing a long-range interpretive plan.

Current Conditions

Key Features

In addition to the visitor center in Carson City and interpretive signs located throughout the field office, the BLM runs eight outreach programs and projects for both adults and children. These programs are led solely by the BLM or in conjunction with local organizations and educational institutions.

Take It Outside-Let's Move Outside: The BLM served over 1,100 people in 2011 and over 3,500 people in 2012 with its Let's Move Outside on BLM's Carson City District environmental education program series for children, families, and the general public. These programs provide fun and easy ways for children and adults to exercise, see more of their BLM-administered lands, and learn about the natural world. Visitors learned facts about the forest, collected seeds for restoration projects, toured a cave used by Native Americans for 9,000 years, visited the Sand Springs Desert Study Area, and helped clean up BLM-administered lands on the Carson River and Truckee River Clean Up days.

Truckee River Environmental Education Days: In 2011 and 2012, CCD staff partnered with The Nature Conservancy and USFWS to present four Truckee River Environmental Education Days for 900 fourth grade students from Washoe and Lyon Counties at The Nature Conservancy's McCarran Ranch Preserve east of Reno. Staff and volunteers operated five stations addressing wetlands, ecosystems and invasive species, plant diversity, river morphology, and water quality.

Hidden Cave Tours: On the second and fourth Saturday of each month, BLM staff delivers free interpretive tours of the Hidden Cave archaeological site. Special tours led by BLM-trained volunteer docents can be arranged for 12 or more people through the Churchill County Museum. The BLM, University of Nevada, and Churchill County Museum produced an educational video about Hidden Cave that will be used to bring the story of Hidden Cave to students and members of the general public unable to physically tour the cave.

Reno Rodeo Reading Roundup: For the last 12 years, BLM fire staff have partnered with the Reno Rodeo Association and the Reno Rodeo Foundation to present Reno Rodeo Reading Roundup assemblies emphasizing the importance of reading to at-risk first graders at 25 schools annually.

Junior Explorer: BLM staff is developing an Indian Creek Recreation Area Junior Explorer Activity book for use by campers, day users, and local students.

Hands on the Lands and Take It Outside: The BLM, The Nature Conservancy, local school districts, and other partners are developing outdoor classroom opportunities at sites along the Truckee River, Indian Creek Recreation Area, Swan Lake, and Faye Luther Creek.

Curtz Lake Interpretive Trail: BLM staff constructed a 1.5-mile interpretive loop with 13 interpretive wayside exhibits.

In addition to these programs, the BLM has multiple Developed Interpretive Sites, including Fairview Earthquake Faults, Sand Springs Desert Study Area, Cold Springs Pony Express Station, Hidden Cave Interpretive Trail, Grimes Point Interpretive Trail, Indian Creek Recreation Area and Faye-Luther Trail.

Resource Changes

The BLM plans to continue these outreach efforts into the future and will continue developing their district-wide environmental education and interpretive strategy and their long-range interpretive plan.

3.5.4 Social and Economic Conditions

This section discusses the social and economic conditions of the planning area. These conditions are discussed in greater detail in the Carson City Resource Management Plan Socioeconomic Baseline Assessment Report (BLM 2013a).

Economic and demographic statistics are primarily reported by county. For these reasons, demographic, economic, and social data are presented for the socioeconomic study area, which includes all lands within the eight counties in Nevada and three in California that compose the planning area. State context is provided for comparison when available, and detailed descriptions of individual counties and municipalities are presented as appropriate. US Census Bureau data presented includes 2010 census data, when available, and American Community Survey data. American Community Survey estimates are based on

data collected over a 5-year time period (2006-2010). The estimates represent the average characteristics of population and housing between January 2006 and December 2010 rather than a single point in time. The American Community Survey is referenced within this document as US Census Bureau (USCB; USCB 2010c). However, for comparison purposes to present conditions, the 5-year average presents a skewed representation due to the massive upheaval in the US economy reflected in the 2008 to 2009 recession, which continues to have an influence.

It is important to note that large proportions of county lands and county populations lie outside of the planning area, particularly for Washoe and Nye Counties in Nevada and all counties in California. For this reason, statistics used in this report are actually representative of the larger geographic area beyond the CCD. It is likely that the counties containing the most BLM-administered land within the planning area are the most intensively used and would be most affected by changes in resource management. Similarly, the counties with the most BLM-administered land are likely to be the most affected by funding to states and counties through federal payments.

Important general social and economic indicators for local communities are population trends, demographics, employment, personal income, and ethnic and racial makeup of the area. Indicators specific to BLM-administered land are recreational use; mineral and energy resources, including alternative energy development; nonmarket values, such as the importance of open spaces and ecosystem services; and agriculture and livestock grazing. Current, historic, and forecast population statistics, housing, and education level are presented in the demographic data. Economic characteristics discussed include employment levels and industries, major employers, income, government revenues and expenditures, and dependence on BLM-administered resources.

The BLM contains natural high desert landscapes and social and economic conditions unique to western Nevada. Within portions of the Sierra Front Field Office, such as Carson City, Washoe County, and Douglas County, BLM-administered lands are at an interface of rapidly growing suburban populations. In these areas, BLM-administered lands play an important role for recreation opportunities for area residents, to provide contributions to quality of life such as the preservation of open space, and to provide for the social and spiritual values for Native American tribes. Protection of BLM-administered lands and private property from wildfire is also an important issue in this area. Within the Stillwater Field Office, more traditional uses of BLM-administered lands, such as livestock grazing and mineral extraction, are of greater importance. Increasingly, renewable energy is of growing importance throughout the planning area.

Regardless of the region, most residents have a strong connection to public lands – administered by the BLM, the Forest Service, and other entities – that surround and encompass their community, and view them as playing a significant

role by providing economic opportunities, recreation, open space, a connection to the western historic landscape, and other intangible benefits. Some of these connections are discussed below under Affected Groups and Individuals. Recreation and Visitor Services (**Section 3.3.4**), Tribal Interests (**Section 3.5.1**) and Livestock Grazing (**Section 3.3.2**) discuss the varying types and levels of public uses of planning area lands in greater detail.

Current Conditions

The following section provides brief summaries of the demographic and economic trends for each of the 11 study area counties. The county descriptions below are primarily derived from county websites, data from the US Census Bureau, and input from economic workshops completed in June 2012.

Throughout this report, data is often representative of entire counties, regardless of whether or not the entire county exists within the planning area. Therefore, the data and descriptions for counties completely or mostly contained within the planning area will be more representative of the CCD than those counties only partially contained.

Nevada

In total, eight counties in Nevada are wholly or partially within the planning area. Four Nevada counties are 100 percent within the planning area: Carson City (100,630 acres), Douglas County (473,760 acres), Mineral County (2,439,500 acres), and Storey County (168,690 acres). Of the remaining four counties within the planning area in Nevada, Lyon County is 99 percent within the planning area (1,279,160 acres), Churchill County is 86 percent in the planning area (2,757,846 acres), Washoe County is 34 percent within the planning area (1,430,920 acres), and only 1 percent of Nye County is within the planning area (194,040 acres). Less than 10 percent of the land in each of the three California counties are within the planning area: Alpine County (40,160 acres out of 474,580 acres), Lassen County (53,780 acres out of 3,026,010 acres), and Plumas County (2,390 acres out of 1,675,820 acres). See **Table 3-44**, Percent of Counties within the Planning Area, below.

Land area and population are not necessarily correlated. There are many large counties completely contained within the planning area that have a relatively low population density. In contrast, only 34 percent of Washoe County lies within the planning area, but the majority of the population within the planning area resides in this county. Another consideration would be correlation between population and land ownership, as demonstrated by the differences between the two field offices. The Sierra Front Field Office contains the majority of the metropolitan population and privately owned lands, while the Stillwater Field Office is comprised of mostly BLM-administered land and rural population centers.

Table 3-44
Percent of Counties within the Planning Area

County	Approximate Acres in Planning Area	Approximate Percent of County in Planning Area
Nevada		
Carson City	100,630	100
Churchill County	2,758,190	86
Douglas County	472,900	100
Lyon County	1,276,600	99
Mineral County	2,442,090	100
Nye County	194,060	1
Storey County	168,830	100
Washoe County	1,431,360	34
California		
Alpine County	40,130	0.1
Lassen County	53,770	0.1
Plumas County	2,380	0.1

Source: BLM 2012f

Carson City

Carson City Consolidated Municipality, located on the western edge of the planning area, is the state capitol of Nevada. The municipality extends only to the city limits, which includes a rural section that reaches up the eastern slope of the Sierra Nevada Mountains, terminating in the center of Lake Tahoe. Carson City began as a mining town during the Comstock Lode in the 1860s, and secured itself as a commercial center after the construction of the Virginia and Truckee Railroad in 1869 (Carson City, Nevada 2012). After experiencing cycles of economic gains and losses from fluctuations in the mining industry and the removal of the Virginia and Truckee Railroad in 1950, the economy of Carson City now relies on public administration, education and healthcare, and entertainment and recreation, with almost half of the population employed by those sectors (USCB 2010b).

In 2010, the population of Carson City was 55,274, a 73 percent increase from 1980. The population density is approximately 382 people per square mile (USCB 2012). Carson City has a long history and attracts many visitors to the area annually to experience the unique historic and recreation opportunities in the area, which include hiking, camping, hunting, fishing, OHV use, and historic train rides on the rebuilt Virginia and Truckee Railroad (Carson City, Nevada 2012).

Churchill County

Churchill County is a rural county located in western Nevada. The county seat of Fallon was established in 1908 in conjunction with the development of the Bureau of Reclamation Newlands Irrigation Project. Due to this project, the area developed an economy based on agriculture, growing mostly alfalfa and

cantaloupes, a tradition that continues today (Fallon Convention and Tourism Authority 2012). The Stillwater National Wildlife Refuge is located in Churchill County. Geothermal exploration has occurred in Churchill County and several power plants have been developed. There is also a strong military presence in Churchill County. Fallon is home to the Naval Air Station Fallon, where the Navy houses its Top Gun training program. Naval Air Station Fallon has a strong economic impact on the surrounding area, due to its relatively large size in a sparsely populated area. In addition, the Marine Corps Mountain Warfare Training Center, located in Bridgeport, California, also utilizes BLM-administered land in Churchill County to perform training exercises. Approximately 3.5 percent of the labor force in Churchill County is in the armed forces, compared with 0.5 percent for the State of Nevada (USCB 2010c).

In 2010, the population of Churchill County was 24,877 people, a 79 percent increase from 1980. The population density is low, with 5 people per square mile (US Census Bureau 2012). Aside from the military, the major employment sectors are education and health care, entertainment and recreation, and agriculture (USCB 2010c). Recreation plays a major role in this county, with many people visiting the area for birding, horseback riding, shooting ranges, and OHV areas. Sand Mountain recreation area is particularly popular and receives over 50,000 visitors per year (Fallon Convention and Tourism Authority 2012).

Douglas County

Douglas County is located on the southwestern edge of the CCD, changing in terrain from the shores of Lake Tahoe, over the eastern slope of the Sierra Nevada Mountains, and down into the Carson Valley. Genoa, one of the oldest permanent settlements in Nevada, is located in Douglas County and was established in 1851 as a trading post for wagon trains. Due to fertile soils on the valley floor, Douglas County has some of the most productive agricultural areas in the state and is able to support the population centers of Minden and Gardnerville. Many retirees also come to Douglas County for the scenic values and temperate climate, while many tourists frequent the area for recreation and gaming opportunities (Douglas County, Nevada 2012). These populations support the two largest employment sectors in the area: education and health care and entertainment and recreation (USCB 2010c).

In 2010, the population of Douglas County was 46,997 people, a 142 percent increase from 1980. The population density is approximately 66 people per square mile (USCB 2012). Recreation opportunities range from fishing and river rafting to horseback riding and all-terrain vehicle tours. Hiking and biking are also major recreation activities. Over the past several years, Douglas County has seen an increase in demand for healthier tourism activities, prompting the creation of urban bike paths and mountain biking trails.

Lyon County

Lyon County is located in western Nevada, bordering California on its southern edge. It first prospered in the mid-1800s as an agricultural and commercial center to support the booming Comstock Lode. The City of Fernley flourished in the early 1900s as part of the Newlands Reclamation Project that brought water to parts of western Nevada for agriculture. The economy still relies heavily on agriculture, both in rural areas and near the population centers of Fernley and Yerington (City of Fernley, Nevada 2012). Manufacturing and construction are also important employment sectors in Lyon County (USCB 2010c). In the 1950s, the Anaconda Mine opened just west of Yerington and was the third largest open pit copper mine in the world until it shut down in 1978 (City of Yerington, Nevada 2012). Lyon County has transformed from mostly rural areas to suburban areas as the Northern Nevada region continues to grow. For 3 out of the past 10 years, it has been one of the fastest growing counties in the US (Lyon County, Nevada 2012).

In 2010, the population of Lyon County was 51,980 people, a 282 percent increase since 1980. The population density is approximately 26 people per square mile (USCB 2012). Due to the close proximity to various lakes and rivers, freshwater fishing and boating are popular recreation activities, as are camping, visiting historic sites, and range shooting. There is a possibility that the Anaconda Mine will be reopened in the near future for resumed production; however, there is a current effort by the EPA and the mine's current owner to clean up the toxic remains at the site before that can occur.

Mineral County

Mineral County is located in southwestern Nevada, bordering California. The region gained prominence during the 1860s when gold was discovered in Aurora, Nevada. Hawthorne was founded in 1883 in response to the construction of the southern extension of the Virginia and Truckee Railroad. In 1911, Mineral County was annexed from Esmeralda County, and Hawthorne became the county seat. Hawthorne remains the county seat and is the largest population center in the county (Mineral County, Nevada 2012). Mining has been historically very important to area, and there continues to be active mining operations as well as a high potential for future mineral extraction. In 1930, the Naval Ammunition Depot, now called the Hawthorne Army Depot, was established. The depot is used for ammunition storage and maintenance and, at its peak during 1945, employed over 5,600 people (NDEP 2012b). Although the current employment levels are much lower and it is now run by a private contractor, the depot remains vital to the economy of Hawthorne and Mineral County. The Marine Corps Mountain Warfare Training Center, located in Bridgeport, California, also utilizes BLM-administered land in Mineral County to perform training exercises.

In 2010, the population of Mineral County was 4,772 people, a 23 percent decrease from 1980. The population density is approximately 1 person per

square mile, the lowest in the study area (USCB 2012). Walker Lake, just north of Hawthorne, provides many recreation opportunities, including fishing and boating. Hunting, rock hounding, and OHV tours are also popular activities.

Nye County

Nye County is located in the southwestern part of the state and is the third largest county in the contiguous US. In 2010, the population of Nye County was 43,946 people, a 385 percent increase from 1980. The population density is approximately 2 people per square mile. The majority of the population lives in Pahrump, a bedroom community for Las Vegas with a population of over 36,000 (USCB 2012). Over 93 percent of the county is public land, managed mostly by the BLM, US Forest Service, Department of Energy, and the Department of Defense. Nye County also encompasses part of Death Valley National Park and includes Ash Meadows National Wildlife Refuge. While some of this land is closed to public use for safety and security purposes, there are vast acres of land available for public recreation, including hiking, camping, hunting, and fishing (USFWS 2012).

The majority of the land and population in Nye County lies outside of the planning area. Only 1 percent of Nye County is within the planning area, with the only population center being Gabbs, which had a population of 269 people in 2010 (USCB 2010a). The land that does lie within the planning area is largely rural, and it is estimated that less than 1,000 people live in this area. Due to the remote location, attracting tourism and pass-through visitor services is a low priority in this area. However, mining is an important economic priority in this area; the Premier Chemicals Mine near Gabbs is a major employer in that community.

Storey County

Storey County is located in west central Nevada, between Lake Tahoe and Pyramid Lake. It is the second smallest county in Nevada, with a largely rural population. Storey County is home to Virginia City, the epicenter of the Comstock Lode. While the time of economic prosperity was relatively short-lived, the character of the old mining days still lives on in Virginia City. Tourism plays a major role in the economy of Storey County, as does manufacturing and construction. This is primarily due to a \$30 million dollar reconstruction, renovation, and expansion of the historic Virginia and Truckee Railroad. Storey County also contains one of the largest industrial parks in the nation and hopes to continue attracting major businesses to the area (Storey County, Nevada 2012).

The population of Storey County was 4,010 people in 2010, a 166 percent increase since 1980, although far short of the population during the Comstock Lode. The population density is approximately 15.3 people per square mile (USCB 2012). With over 16,000 acres of BLM-administered land, there are many opportunities for hiking, camping, mountain biking, OHV use, hunting, and

fishing. Storey County has begun promoting OHV events to diversify and stabilize the economy of the Virginia City area.

Washoe County

Washoe County is located in western Nevada, along the eastern slope of the Sierra Nevada mountain range and adjacent to the California border. The county encompasses both rural agricultural regions and bustling metropolitan areas, creating a wide variety of economic sectors and tourism opportunities. The majority of the population and economic activity in the county is based in the Reno-Sparks metropolitan area, which has many casinos, an international airport, the University of Nevada Reno, and the headquarters for many mining and energy companies (The Chamber, Reno-Sparks-Northern Nevada 2012). In this area, tourism, education, and management and professional services are the main sectors of the economy. Washoe County also contains many acres of agricultural land in the central and northern parts of the county, which plays a smaller role in the economy (USCB 2010c).

The population of Washoe County was 421,407 in 2010, a 117 percent increase since 1980. The population density is 66.9 people per square mile (USCB 2012). The county contains the eastern slope of the Sierra Nevada mountain range and provides access to Lake Tahoe, the Truckee River, and Pyramid Lake. This makes it ideal for recreation activities like fishing, boating, and rafting, in addition to many opportunities for hiking, camping, and biking.

Though only 34 percent of Washoe County lies within the planning area, this area contains the major population and economic centers. The above descriptions accurately depict the area within the planning area.

California

The following California counties contain fragments of land that are managed by the CCD but are surrounded by lands managed by other BLM district offices. For each county, less than 10 percent of the land is managed by the CCD. The descriptions below describe the entire county, which may not present an accurate representation of the lands comprised by the CCD.

Alpine County

Alpine County is located in eastern California, just south of Lake Tahoe and bordering Nevada. It is the smallest county in California in both size and population. Alpine County was formed when prospectors and pioneers came to the eastern Sierra looking for silver after the Comstock Lode began in 1859, forming temporary mining towns and a producing a sudden spike in population. When very little silver was discovered, most people left, dropping the population to a few hundred people by the 1920s. In the past few decades, however, outdoor recreation and tourism have increased the population and created a new, steady source of economic activity (Alpine County Chamber of Commerce 2012).

The population of Alpine County was 1,175 people in 2010, which is a 7 percent increase since 1980, but a 3 percent decrease from 2000. The population density of the area is approximately 2 people per square mile (USCB 2012). There are no incorporated towns in Alpine County. Much of the economy is supported by tourism, primarily based on two major ski resorts and the outdoor recreation industry. About 96 percent of the land is under public ownership, providing plenty of space for snow sports, hunting, fishing, camping, and rafting in the area. Education and healthcare and public administration are also strong sectors of the economy in Alpine County.

Lassen County

Lassen County is located in northeastern California, north of Lake Tahoe and bordering Washoe County in Nevada. White Americans began passing through the area during the gold rush of 1849 and created a flurry of economic activity until the mineral resource was diminished after a few decades. Once the gold rush was over, lumber became the primary export and economic driver of the area from the early 1900s until early in the 21st century, when the last major timber mill closed down. Utilizing the location in the mountains and the basin and range, the main economic driver of the region is now outdoor recreation and the tourism industry (Lassen County, California 2001). Education and public administration are also significant contributors to the economy. Although less so than in previous years, forestry continues to play a prominent role in the local economy (USCB 2010c).

The population of Lassen County was 34,895 people in 2010, a 61 percent increase since 1980 but only a 3 percent increase since 2000. The population density is approximately 8 people per square mile (USCB 2012). Recreation plays an important role in the local economy, including water skiing, boating, and fishing on Eagle Lake; OHV use, horseback riding, and BLM wild mustang roundups in high desert areas; and hiking and camping in Lassen Volcanic National Park.

Plumas County

Plumas County is located in eastern California, north of Lake Tahoe and south of Lassen County. Multiple forks of the Feather River flow through the county, and were the epicenter of the gold rush that occurred here from the 1850s through the early 1900s. Once the gold supply was depleted and the construction of the Western Pacific Railroad was completed in 1910, timber sales became the largest economic driver in the area (Plumas County, California 2012). While timber still plays a role in today's economy, tourism, construction, and education and health care are the main employment sectors in the county (USCB 2010c).

The population of Plumas County was 20,007 in 2010, a 15 percent increase from 1980 and a 4 percent decrease from 2000. The population density is approximately 8 people per square mile (USCB 2012). Similar to the other

California counties in the planning area, there are vast acres of BLM-administered land for recreation activities during all season. Snow sports, like skiing and snowmobiling, are popular in winter, while camping, boating, biking, and fishing are popular in the summer. Plumas County is also adjacent to Lassen Volcanic National Park.

Affected Groups and Individuals

In addition to those living within the planning area, there are specific groups for whom management of BLM-administered lands is of particular interest. These include recreational users, Native Americans, military installations, recreational outfitters and vendors, private livestock grazing lessees and area ranchers, mineral estate owners, and renewable energy leaseholders. Furthermore, special interest groups and individuals who represent resource conservation or resource use perspectives constitute additional groups who have an interest in planning area management.

Recreational Users

Recreational visitors to the planning area include recreationists whose destination is western Nevada, those who are traveling through the area to get to Las Vegas, Reno, central California, Salt Lake City, or locations across the west, and residents of the region (particularly in the Stillwater Field Office). Approximately 709,340 people live within the study area, and many of these residents utilize BLM-administered lands for recreational activities such as OHV use, mountain biking, camping, fishing, and hunting.

Native Americans

Native Americans have a unique relationship with BLM-administered lands based on traditional uses and cultural values. The value they place on BLM-administered lands includes the special spiritual contribution and foundation the lands provide to the culture. BLM-administered lands are considered critical for the social and spiritual survival of Native Americans.

Military

Naval Air Station Fallon and Hawthorne Army Depot have an important economic presence in the planning area. BLM-administered land is utilized for training exercises and by military personnel. Workshop participants stressed the continued importance of coordination with Naval Air Station Fallon and other military operations and the BLM to coordinate on land use.

Recreational Outfitters and Vendors

Recreational outfitters in the area include guides as well as organizers of special events that occur on an annual basis in the planning area. Outfitters and vendors are particularly concerned with the management directing motorized and mechanized use and the issuance of special recreation permits.

Ranchers and Livestock Grazing Lessees

Ranching and agriculture are a part of the planning area's history, culture, and economy. Ranchers face such challenges as fluctuating livestock prices, increasing equipment and operating costs, fluctuating water availability, and changing federal regulations. Additional income sources are often necessary to continue ranching, and ranchers or their family members may also work in other sectors of the economy. Agriculture and livestock grazing are historic uses of BLM-administered lands in some parts of the planning area. In 2010, farm jobs accounted for 5.3 percent of total employment in Lassen County, California, and zero percent in Storey County, Nevada, with an average of 0.9 percent for the study area as a whole (Headwaters Economics 2012).

Private Landowners

Landowners with property adjacent to BLM-administered lands are an important group to consider in the planning process. Local private landowners are concerned about how the development on BLM-administered lands may impact the quality or quantity of local natural resources, especially water. Protection of adjacent BLM-administered lands from wildland fire is a concern for residents for both public safety and protecting private property. Additional planning issues of importance to some private landowners include rural lifestyle preservation, preservation of open space, and BLM-administered land recreation opportunities.

Mineral Resources

Development of mineral resources is of historical importance in the planning area and of continued importance for some local communities. Mineral estate leases cover the various extractable minerals found within the planning area, notably gold, silver, and copper. Leaseholders are particularly interested in keeping restrictions on leasing minimal in order to keep the costs and delays of production low.

Renewable Energy Leaseholders

Due to increasing fossil fuel prices and federal incentives for renewable energy development, interest in nontraditional energy leasing opportunities on BLM-administered lands is of increasing importance. Geothermal energy in particular is of growing importance in the planning area, although some resources are also available for wind and solar development. Renewable energy leaseholders would be interested in management direction that supports development of these resources in a timely, cost-efficient manner. Geothermal energy is managed under the fluid leasable program, while solar and wind projects are managed as ROW authorizations.

Right-of-way Holders

The BLM currently manages ROWs for land uses such as roads, power lines, natural gas pipelines, water lines, telephone lines, communication sites, and ditches and canals on BLM-administered land. Renewable energy rights for wind

and solar are also granted as ROW authorizations. ROW holders are primarily concerned with continued access to ROW lands. Requests for ROWs are likely to increase in the next 20 years due to increased interest in renewable energy and the potential for growth and development. As energy development continues, energy ROWs, such as electric transmission lines, and regulations that allow for ROW access and use are likely to increase in importance.

Individuals and Groups Who Prioritize Resource Protection

Various individuals and groups at the local, regional, and national levels are interested in how the BLM manages public lands. Many of their concerns are in regard to wildlife, water quality, and visual quality. They value BLM-administered lands for open space, wildlife, recreation, and scenic qualities, among other aspects. Non-profit organizations with a stake in wildland preservation, such as The Wilderness Society, have cited the importance of including an assessment of the nonmarket benefits provided by BLM-administered lands in the socioeconomic analysis for the RMP/EIS. Non-market benefits include ecosystems services such as clean air and water, as well as the values of open space for the local community.

Decision Area Demographics

In 2010, the study area total population was 709,340, ranging from 1,175 in Alpine County, California, to 421,407 in Washoe County, Nevada. The population density for the study area in 2010 varied from approximately 1.3 people per square mile in Mineral County, Nevada, to 382.1 persons per square mile in Carson City, Nevada. The average population density for the 11 counties in the study area was 16.1 persons per square mile, less than state averages for both Nevada and California, which were 24.6 and 239.1 persons per square mile, respectively. This is an increase from 2000, when the population density was 13.3 for the study area. In 2000, the population densities ranged from 1.4 persons per square mile in Mineral County, Nevada, to 362.6 persons per square mile in Carson City, Nevada.

In 2010, the vast majority of the population in the study area resided in Washoe County in the city of Reno (225,221 people) and the surrounding metropolitan area (including Sparks, 90,264 people, and Sun Valley, 19,299 people). Other population centers in the study area include Carson City, with a population of 55,274 in 2010, and the city of Fernley in Lyon County, with a population of 19,386 in 2010 (USCB 2010a).

From 2000 to 2010, the population within the study area increased by 20.5 percent, showing a slower rate of growth from the two previous decades. The majority of the counties showed positive growth, with the highest being 50.7 percent in Lyon County, Nevada. Mineral County in Nevada and Alpine County and Plumas County in California all decreased in population between 2000 and 2010. Overall, the study area increased in population by 115.3 percent between 1980 and 2010, with the greatest population growth in Nye County, Nevada

(385.7 percent), and the greatest population loss in Mineral County, Nevada (23.2 percent). The growth in the study area within the 30-year period was greater than that of California (57.4 percent increase) and less than that of Nevada (237.4 percent increase). See **Table 3-45**, Study Area Population Totals (1980–2010).

Table 3-45
Study Area Population Totals (1980–2010)

Location	1980	1990	1980– 1990 Percent Change	2000	1990– 2000 Percent Change	2010	2000– 2010 Percent Change	1980–2010 Percent Change
Nevada								
Carson City	32,022	40,443	+26.3	52,457	+29.7	55,274	+5.4	+72.6
Churchill County	13,917	17,938	+28.9	23,982	+33.7	24,877	+3.7	+78.8
Douglas County	19,421	27,637	+42.3	41,259	+49.3	46,997	+13.9	+142.0
Lyon County	13,594	20,001	+47.1	34,501	+72.5	51,980	+50.7	+282.4
Mineral County	6,217	6,475	+4.1	5,071	-21.7	4,772	-5.9	-23.2
Nye County	9,048	17,781	+96.5	32,485	+82.7	43,946	+35.3	+385.7
Storey County	1,503	2,526	+68.1	3,399	+34.6	4,010	+18.0	+166.8
Washoe County	193,623	254,667	+31.5	339,486	+33.3	421,407	+24.1	+117.6
State	800,493	1,201,833	+50.1	1,998,257	+66.3	2,700,551	+35.1	+237.4
California								
Alpine County	1,097	1,113	+1.5	1,208	+8.5	1,175	-2.7	+7.1
Lassen County	21,661	27,598	+27.4	33,828	+22.6	34,895	+3.2	+61.1
Plumas County	17,340	19,739	+13.8	20,824	+5.5	20,007	-3.9	+15.4
State	23,667,902	29,760,021	+25.7	33,871,648	+13.8	37,253,956	+10.0	+57.4
Study Area	329,443	435,918	+32.3	588,500	+35.0	709,340	+20.5	+115.3

Source: USCB 1980, 1990, 2012

Population within the study area is expected to increase for all counties from 2015 to 2030 based on projections from the Nevada State Demographer's Office and the California Department of Finance, Demographic Research Unit. Populations are expected to increase by approximately 20 percent across the entire study area, with Nye County, Nevada, having the strongest growth (22 percent) and Alpine County, California, having the weakest growth (less than 1 percent). All other Nevada counties are expected to grow by between 8 and 16 percent between 2015 and 2030, which is equal to the expected growth of both states (approximately 15 percent each). All California counties are expected to grow by less than 10 percent. See **Table 3-46**, Study Area Population Projections (2015–2030).

Table 3-46
Study Area Population Projections (2015–2030)

County	2015	2020	2025	2030	% Change 2015-2030
Nevada					
Carson City	58,690	61,844	63,684	65,993	+12.4
Churchill County	28,513	29,753	30,534	31,628	+10.9
Douglas County	49,428	50,891	52,500	53,724	+8.7
Lyon County	57,862	64,561	67,458	70,592	+22.0
Mineral County	4,983	5,144	5,258	5,403	+8.4
Nye County	49,328	51,163	53,017	55,432	+12.4
Storey County	4,457	4,659	4,836	5,022	+12.7
Washoe County	445,260	473,616	494,788	517,889	+16.3
State	2,901,525	3,069,272	3,211,722	3,363,707	+14.8
California					
Alpine County	1,170	1,171	1,171	1,173	+0.3
Lassen County	35,503	36,317	37,380	38,434	+8.3
Plumas County	20,039	20,157	20,363	20,390	+1.8
State	38,926,281	40,817,839	42,721,958	44,574,756	+14.5
<i>Study Area</i>	<i>711,190</i>	<i>755,233</i>	<i>799,276</i>	<i>830,989</i>	<i>+14.6</i>

Source: Nevada State Demographer's Office 2011; California Department of Finance, Demographic Research Unit 2012

Household Characteristics

Housing

For most of the counties in the study area, the number of housing units changed considerably between 2000 and 2010. The most dramatic change was in Lyon County, Nevada, the number of housing units increased by 57.9 percent. The only county to have a (1.3 percent) decrease in housing was Mineral County, Nevada. The percent change in the remaining Nevada counties ranged from 10.6 percent in Carson City to 40.3 percent in Nye County. With the exception of Lyon County, they all fell below the state average of 41.9 percent increase. In California, both Alpine County and Plumas County were above the state average of 12 percent, with an increase in housing units of 16.2 and 16.3 percent, respectively, while Lassen County increased by only 5.9 percent. Over the entire study area, the number of housing units increased by 26.3 percent.

In 2010, housing vacancy rates within the study area ranged from a low of 9.0 percent in Carson City, Nevada, to a high of 71.8 percent in Alpine County, California. All of the counties in California were well above the state average of 8.1 percent, with Lassen County at 20.9 percent and Plumas County at 42.3 percent. While these rates seem extremely high, a large portion of the vacancies are due to vacation homes and second residences, which make up 90 percent of vacant homes in Alpine County, 50 percent in Lassen County, and 80 percent in Plumas County (USCB 2010a). For the counties in Nevada, the vacancy rate was

comparable to the state average of 14.3 percent, ranging from 9 percent in Carson City to 20.8 percent in Mineral County. The overall vacancy rate for the study area was 14.6 percent.

Employment of Residents

Employment is a key economic indicator, as patterns of growth and decline in a region's employment are largely driven by economic cycles and local economic activity.

Based on the data representing 2006-2010 averages, the arts, entertainment, recreation, accommodation, and food industry and the retail trade industry are second and third largest employment sectors within the study area (15.2 percent and 12.2 percent, respectively), surpassed by the education, health care, and social assistance industry (18.1 percent). This indicates that tourism plays a large role in the local economies within the planning area, particularly in Nye, Washoe, and Douglas Counties in Nevada, where almost 30 percent of the workforce is employed within these sectors. The economic contribution from the use of BLM-administered lands provides significant input into these sectors, especially to the more rural counties, and will be affected by future land management decisions.

The construction sector provides a sizeable contribution (8.7 percent) to the employment in the study area. This industry employs around 14 percent in both Storey and Nye Counties in Nevada and just over 12 percent in Plumas County, California. While construction sector figures include building for residential and commercial development, these numbers also include infrastructure for energy development, which may include development on BLM-administered lands.

The agriculture, forestry, fishing and hunting, and mining industries have a relatively small impact in the study area, employing only 1.8 percent of the work force; only the information sector has a smaller impact. On an individual county basis, however, the agriculture, forestry, fishing and hunting, and mining industries play a much larger role. In Nevada, 7.8 percent of Nye County's overall employment is within this sector, as well as 6.0 percent of Churchill County's overall employment. In California, it accounts for 7.1 percent of employment in Plumas County and 5.1 percent in Lassen County. These are all rural counties and may be impacted to a greater extent by changes in BLM land administration than larger, more diversified counties.

Income Distribution

The study area population represents a wide range of income levels. Overall median household income increased for all counties between 2000 and 2006-2010 (not adjusted for inflation). Alpine County, California, had the highest median household income at \$63,478 per 2006-2010 averages, and Mineral County, Nevada, had the lowest at \$35,446 (USCB 2010c). Per capita income follows similar trends from 2000 to 2006-2010, with all counties increasing per capita income in that time period. The average increase in per capita income

across the study area was \$6,066, with the highest increase in Plumas County, California (over \$9,000), and the lowest increase in Lyon County, Nevada (under \$2,500), (USCB 2000; USCB 2010c).

When compared to state averages, most counties in the study area fell below the average income for both median household income and per capita income in both 2000 and 2006-2010. In 2000, the only counties in Nevada with a median household income greater than the state average (\$44,581) were Douglas County (\$51,849), Storey County (\$45,490), and Washoe County (\$45,815). The only counties with a per capita income greater than the state average (\$21,989) were Douglas County (\$35,239), Storey County (\$23,642), and Washoe County (\$24,227). In California, all of the counties fell below the state average for median household income (\$47,493). Only Alpine County (\$24,431) had a greater per capita income than the state average (\$22,711), (USCB 2000). Overall, the study area had a median household income of \$40,808 and a per capita income of \$20,677.

The 2006-2010 results were similar. In Nevada, the counties with a median household income greater than the state average (\$55,726) were Douglas County (\$60,721) and Storey County (\$61,525). The counties with a per capita income greater than the state average (\$27,589) were Douglas County (\$35,239), Storey County (\$31,079), and Washoe County (\$29,687). In California, Alpine County was the only county to surpass the state average in either median household income or per capita income (USCB 2010c). Overall, the study area averaged a median household income of \$51,579 and a per capita income of \$26,743.

Local Economic Activity Affected by Public Land Uses

The BLM's management of public lands contributed more than \$112 billion to the national economy in 2010 and supported more than 500,000 American jobs in 2010 (BLM 2011b). Local economies realize direct and indirect benefits from expenditures and revenues generated by a variety of activities in the BLM CCD decision area. The BLM estimates that management of activities on public lands supports more than 5,000 and 22,800 direct and indirect jobs in Nevada and California, respectively. Refer to **Table 3-47, Direct and Indirect Jobs in Nevada and California Supported by BLM's Management of Public Lands (Fiscal Year 2010)**.

Activities that tend to have the greatest economic influence include recreation, mining and energy resource development, and livestock grazing. BLM-administered lands cover approximately 54 percent of total land area in the study area (BLM 2012f). Additional BLM-administered lands managed by other district offices contribute to the economy of some area counties. Activities that are directly and indirectly impacted by BLM management decisions are discussed in the sections below.

Table 3-47
Direct and Indirect Jobs in Nevada and California Supported by BLM's
Management of Public Lands (Fiscal Year 2010)

Economic Area	Nevada		California	
	Direct Jobs	Total Jobs	Direct Jobs	Total Jobs
Minerals	125	221	4,473	13,843
Geothermal and Wind Energy	193	393	399	1,041
Timber	22	47	110	281
Grazing	200	352	34	71
Recreation	2,702	4,096	4,586	7,634
Total	3,242	5,110	9,602	22,870

Source: BLM 2011b

Activities Directly Impacted by BLM Management

The BLM collects revenues from recreation and commercial activities that take place on the land that it administers in Nevada and California, and a portion of these revenues are redirected back to the state and county governments. These revenues are collected from facilities, such as fees from campgrounds, from BLM recreation permits (special, competitive, organized group activity, and event use permits), mining leases and mineral revenues, grazing fees, and forestry (e.g., wood products, seeds, and timber) sales. **Table 3-48**, CCD Receipts (Fiscal Year 2011), shows the revenues collected by the BLM CCD in 2011. Additional revenues are also collected from royalty payments.

Table 3-48
CCD Receipts (Fiscal Year 2011)

Resource	Total
Recreation fees*	\$864
Grazing Fees**	\$132,400
Leases & Rights-of-way	\$1,326,110
Salable Mineral Materials	\$62,916
Forestry	\$27,294

Source: BLM 2012g

*This number includes organized group event receipts and commercial receipts

**This figure includes 97,168 AUMs billed in calendar year 2011. Base cost per AUM in the planning area is \$1.35 (plus additional fees for grazing other's cattle). Multiplied by the total number of AUMs, this means there was approximately \$132,400 collected in grazing fees within the planning area.

Market and Commodity Values

Recreational Use

The BLM provides recreational opportunities for both local residents and tourists from outside the area, and these recreational opportunities represent an important contribution. Recreation was identified as a key use of BLM-administered lands in economic workshops. The BLM supports a variety of activities, including camping, hiking, horseback riding, off-road vehicle driving,

and target shooting. Migrating and resident wildlife provide plentiful opportunities for observation, photography, and hunting. Former mining towns offer historic recreation opportunities.

The BLM collects recreation data by recreational activity for each field office and maintains this data in BLM's Recreation Management Information System. **Table 3-30**, Visitor and Visitor Use Days (2006-2013) in the Planning Area, provides data for the study area. A visit is defined as one person's trip, or visit, for one day, to planning area public lands. A visitor day represents one person engaging in an activity for 12 hours of use. Approximately 1,063,080 recreational users visited the planning area in 2013. Based on Recreation Management Information System data, the most popular of activities in the planning area are OHV travel, camping, picnicking, nonmotor sports, hunting, snowmobile and other motorized travel and specialized nonmotor sports, events and activities. Percentages for all activities are shown in **Table 3-49**, Activities of Visitors to the CCD (Fiscal Year 2013). Much of the recreation occurs as dispersed recreational use in undeveloped areas (e.g., OHV use, hunting, fishing, and snowmobiling). Notable developed recreation sites include Sand Mountain Recreation Area, Prison Hill Recreation Area, Silver Saddle Ranch, Wilson Canyon, Hungry Valley Recreation Area, Pah Rah Hills, Jumbo Grade/Virginia City, Lemmon Valley, Indian Creek/East Fork of the Carson River SRMA, and the Walker Lake SRMA.

Table 3-49
Activities of Visitors to the CCD (Fiscal Year 2013)

Activity	Percent
Off-Highway Vehicle Travel	34.2
Camping & Picnicking	30.8
Non-Motorized Travel	16.2
Hunting	8.1
Snowmobile & Other Motorized Travel	3.3
Specialized Non-Motor Sports, Events & Activities	3.3
Driving For Pleasure	3.0
Interpretation, Education & Nature Study	2.1
Fishing	1.6
Winter/Non-Motorized Activities	0.4
Boating/Non-Motorized	0.2
Boating/Motorized	0.1
Specialized Motor Sports, Events & Activities	0.1
Swimming & Other Water Based Activities	>0.1

Source: BLM 2012h

In addition to visitor information, the CCD collects information on SRPs issued in the planning area. The BLM requires SRPs for commercial uses, competitive events, organized groups, and recreation use within certain special areas. SRPs allow specified recreational uses of BLM-administered lands and related waters with applicable stipulations. SRPs for competitive events and other organized

groups in the planning area based on most recent fiscal years are shown in **Table 3-50**, SRPs for Competitive Events and Organized Groups.

Table 3-50
SRPs for Competitive Events and Organized Groups

	Approximate Number of Annual Events	Approximate Number of Participants	Approximate Additional Number of Spectators	Permit Fees
Stillwater Field Office	10	1,100	Not available	\$5,530
Sierra Front Field Office	47	2,905	4,510	\$17,150
Carson City District	57	4,005	Not available	\$22,680

Source: BLM 2012h

Fee recreation areas represent direct economic contributions in the form of fees collected as well as areas with concentrated recreational use where vendors and outfitters can promote local businesses. Notable designated fee sites in the planning area include Sand Mountain Recreation Area and Walker Lake Recreation Area. The Sand Mountain Recreation area contributed over \$200,000 in fees in 2011 (see **Table 3-51**, Sand Mountain Recreation Area – Pass Sales and Revenue 2006-2013). This recreation area, managed by the Stillwater Field Office, is located within Churchill County and features 4,795 acres of sand dunes and is used primarily by OHV riders. It should be noted that recreational use of the area and associated economic contributions vary by season, with the peak use in October/November and at a slightly lower level in April/May. In addition to fees collected from permits, spending with local vendors and outfitters represents a contribution to the local economy. In 2011, gross income of Sand Mountain vendors was estimated at over \$64,000 (BLM 2012h). Fees from permits at Walker Lake recreation area in 2011 were estimated at an additional \$2,344.

Table 3-51
Sand Mountain Recreation Area – Pass Sales and Revenue 2006-2013

FY	Permits			Revenue		
	Annual	Weekly	Total	Annual	Weekly	Total
2006	1,792	4,895	6,687	\$161,286	\$195,781.00	\$357,067
2007	1,609	4,798	6,408	\$144,826	\$ 91,937.00	\$336,763
2008	1,685	3,941	5,626	\$151,636	\$157,629.00	\$309,265
2009	1,605	4,373	5,977	\$144,408	\$174,918.00	\$319,326
2010	1,255	3,343	4,599	\$112,979	\$133,732.00	\$246,711
2011	923	2,604	3,527	\$82,090	\$103,640	\$185,730
2012	782	2,209	2,991	\$69,074	\$88,039	\$157,834
2013	584	2,141	2,725	\$57,590	\$95,858	\$153,448

Source: BLM 2012h

¹Number of permits sold calculated by dividing total revenue for type of permit by cost of permit. Special Recreation Permit-Individual Permits are \$90 annually, or \$40 weekly

In addition to the recreation data presented for the CCD in the tables above, it is likely that recreation on other federal and state lands in and around the study area contributes to the local economy. Notable areas for recreation outside of the planning area include Lake Tahoe and Humboldt-Toiyabe National Forest.

Recreational activity has important economic value both in terms of the satisfaction it provides local residents and the economic activity it generates for the regional economy. While hunting and fishing fees are collected by the state, visitors who travel to the region for these activities may contribute to the local economy. A 2007 study found that nonwildlife based outdoor recreation resulted in \$1.5 billion and \$24.6 billion in trip expenses and sporting equipment in Nevada and California, respectively. Wildlife based recreation contributions resulted in an additional \$344 million and \$3,540 million in retail sales in Nevada and California, respectively. Economic stimulus occurs as nonresidents spend money in the local economy, generating jobs, income, and additional spending by local residents. Indirect expenditures added additional economic benefits throughout the state (Outdoor Industry Foundation 2007). In the planning area in 2011, gross income from guide services for hunting and other activities in the planning area was estimated at over \$56,000 (BLM 2012h).

Mineral and Energy Resources

In addition to federal minerals underlying BLM-administered lands, the BLM is also responsible for administering federal mineral estate underlying lands managed by other agencies, or on reserved mineral estate underlying private lands. Generally, mineral management programs include locatable minerals (e.g., metals and gypsum), leasable minerals (e.g., fluid leasables such as oil and gas and geothermal, and solid leasables such as potash), and salable mineral materials (e.g., common varieties of sand and gravel, clay, and rock). The economic contributions of different categories of resources in the planning area are examined below. Renewable energy is discussed in a separate section below.

Locatable Minerals. Hard rock mineral extraction has historically played an important role in the economy for some counties in the planning area. Many of the towns in the planning area were formed as a result of mining booms in the early 20th century. Because mining has fluctuated over time in response to changing demand for minerals and resource availability, the boom and bust cycles have played a role in the local economies. Today, mineral extraction of gold, silver, and copper continues to contribute to some local economies (Headwaters Economics 2012). Socioeconomic issues in the planning area associated with mining include use of water and lack of adequate housing for employees.

Currently, mining in the planning area is concentrated in Mineral, Churchill, and Nye Counties. Storey County also has high potential but high constraints on development due to the prevalence of cultural and historic resources. Mining represented less than 2 percent of total employment in all planning area

counties with the exception of Nye County, where approximately 10 percent of employment was attributed to metal ore mining in 2010 (Headwaters Economics 2012). As previously stated, this data is county-wide and may represent activity outside of the CCD.

Minerals found in the planning area include gold, silver, copper, iron, and tungsten. Industrial minerals such as diatomite, limestone, clay, and salt are also found in the planning area. BLM-administered mineral resources are discussed in detail in **Section 3.3.3, Geology and Minerals**. Presently within the planning area there are 24 authorized exploration or mining Plans of Operation (required for any mining of locatable minerals or locatable mineral exploration causing surface disturbance of more than 5 acres) and 37 authorized exploration Notices (required for locatable mineral exploration surface disturbance of less than 5 acres). New development of mineral resources within existing claims and outside of current permitted mine boundaries at idle and active mine sites is possible as new ore deposits and extensions of existing ones are discovered. Development would continue at a rate determined by the price of minerals in the market place and technological advances that lower the price to mine and process ore. Unlike leasable minerals, no federal royalties are collected or dispersed associated with locatable minerals.

Leasable Minerals (Excluding Geothermal). The counties in California and Nevada that compose the study area are not major producers of leasable minerals. Nevada is currently not a major producer of leasable minerals compared to other western states. Oil production in Nevada has decreased since the early 1990s and has leveled at less than 500,000 barrels per year (Nevada Commission of Mineral Resources 2011). Drilling for oil and gas resources within the planning area in Washoe, Lyon, Churchill, and Mineral counties has been conducted on a limited basis from the early 1900s until present, and no economic oil or gas deposits have been found to date. There is no reason to believe that oil and gas would constitute an economic resource within the planning area in the future. However, it is likely that oil and gas exploration will continue to occur on a limited basis as new potential targets are identified within the planning area (BLM 2011c).

Leasable minerals do not represent a significant source of income or employment in the study area based on most recent data. Oil and gas extraction and coal mining provided less than 2 percent of total employment for all planning areas counties based on 2010 data (Headwater Economics 2012). Constraints limiting development in the area include the lack of a transportation pipeline for extracted product.

Salable Minerals. Deposits located in the planning area include construction sand and gravel, aggregate, and decorative rock. Mineral material production from BLM-administered land in the planning area planning area is discussed in detail in **Section 3.3.3, Geology and Minerals**. Materials are sold to individuals and

corporate entities through negotiated sales. Federal, state, and local governments and nonprofit organizations are permitted free use of these materials for qualified purposes. Common use areas are generally broad geographic areas from which the BLM can make disposals of mineral materials to many persons with only negligible surface disturbance. A community pit is a small defined area from which the BLM can make disposals of mineral materials to many persons. Demand for and creation of pits was highest at the peak of the housing boom due to the need for construction materials.

Renewable Energy

Renewable energy, particularly geothermal resources, represents a growing sector of importance in the planning area. The study area contains potential resources for renewable energy production, including geothermal, solar (photovoltaic and concentrating solar power applications) and wind. On January 16, 2009, Secretarial Order 3283 was issued to facilitate the Department of the Interior's efforts to achieve the goal Congress established in Section 211 of the Energy Policy Act of 2005. By 2015, the Department of the Interior will approve nonhydropower renewable energy projects on BLM-administered lands with a generation capacity of at least 10,000 megawatts of electricity.

Solar. One solar ROW grant has been issued in the planning area, for a 575-acre project. The BLM also has a pending ROW application for solar development near Naval Air Station Fallon. However, the BLM-administered land the proposed project would use is in a possible land exchange area (BLM 2011c). A Programmatic Solar EIS has been developed by the BLM Washington Office, but no priority development areas for utility-scale solar energy facilities were identified in the planning area (BLM 2011c). Lack of major power lines for distribution of energy is a constraint to energy development in the planning area.

Wind. The BLM currently has two authorized wind testing projects listed in **Table 3-38, Current Wind Testing Projects in the Planning Area**. These projects could result in up to 11,296.74 acres of potential wind development if the testing data show that the areas are viable and the proponents proceed with energy development. Under current wind energy regulations, testing projects cannot be renewed unless the application to renew is accompanied by an application for development (and a plan of development). Key constraints to development include special wildlife, particularly sage-grouse and raptors. Constraints to development in Storey County also include cultural and historic resources.

Geothermal. Up to 75 percent of all geothermal lease acres on BLM-administered in the US are in Nevada, and the CCD sits atop one of the most active geothermal resource areas; the 2003 BLM/National Renewable Energy Laboratory study identified the CCD as one of the BLM planning areas with the highest potential for geothermal resources and highly favorable for geothermal

development (BLM 2011c). As of February 2013, there were 148 geothermal leases totaling approximately 299,195 acres located in the planning area (BLM 2013f). Six areas are identified within the planning area with active geothermal power production of approximately 208 megawatts of electricity (enough to power about 200,000 homes). These include Steamboat Hills near Reno; Dixie Valley; Wabuska; and Soda Lake, Stillwater, and Salt Wells near Fallon. Another three areas have active exploration projects with proposed future energy production, including Southern Gabbs Valley, Northern Edwards Creek Valley, and the Hazen area. Additional areas that have active geothermal leases but minimal or no exploration include Soda Springs Valley near Luning; Rhodes Salt Marsh near Mina; Teels Marsh southwest of Mina; and the west Stillwater Range northeast of Fallon (BLM 2011c).

Federal Lease Revenue

Lease holders competitively bid, pay an initial bonus, and subsequently pay rent for the right to develop the resources on BLM-administered lands. These funds are collected and subsequently distributed to the federal and state government and are known as lease revenue and, in the case of rents, lease royalties. Lease revenues and royalties to the state and county provide an additional economic benefit of mineral resource extraction. Federal mineral lease revenues are collected by the Office of Natural Resources Revenue within the Department of the Interior. Approximately 50 percent of the revenues are transferred to the Nevada or California State Treasurer, as appropriate. Nevada received close to \$8,345,000 in federal lease revenue and royalties disbursement in Fiscal Year 2011, while California received \$86,654,000 from total onshore leases (Office of Natural Resources Revenue 2012). This portion, in turn, is distributed to counties, cities, and school districts.

Revenues from mineral resources extraction in the planning area provide benefits to local communities. The contribution of geothermal lease revenue directly to study area communities is shown in **Table 3-52**, Study Area Federal Mineral Lease Revenues Disbursement, Geothermal Lease Revenue (Fiscal Year 2011). Total lease revenues and royalties reported for Nevada in 2011, including direct and indirect geothermal energy production, oil and gas production, potassium, sand, and gravel, were \$17.43 million. For California, total revenues and royalties were over \$230 million. However, the majority of production occurred in other regions of the state outside of the planning area. Distribution of royalties for area counties is included in **Table 3-52**. A breakdown of specific royalty revenue information is not available by county. However, based on the statewide breakdown and local resources, royalty and revenues from indirect geothermal production represents a large portion of the contributions from area counties.

Table 3-52
Study Area Federal Mineral Lease Revenues
Disbursement, Geothermal Lease Revenue
(Fiscal Year 2011)

County	Total
Nevada	
Carson City	\$0
Churchill County	\$879,578
Douglas County	\$0
Lyon County	\$6,626
Mineral County	\$64,331
Nye County	\$48,308
Storey County	\$0
Washoe County	\$28,026
State	\$1,450,232
California	
Alpine County	\$0
Lassen County	\$12,232
Plumas County	\$0
State	\$2,208,258
Study Area	\$1,039,101

Source: ONRR 2012

Payments in Lieu of Taxes

Payments in Lieu of Taxes are federal payments to local governments that help offset losses in property taxes due to nontaxable federal lands within their boundaries. Congress appropriates Payments in Lieu of Taxes annually, and the BLM administers disbursement to individual counties. Payments in Lieu of Taxes payments are determined according to a formula that includes population, the amount of federal land within the county, and offsets for certain federal payments to counties, such as timber, mineral leasing, and grazing receipts. Payments in Lieu of Taxes are transferred to state or local governments, as applicable, and are in addition to other federal revenues, including those from grazing fees. The study area counties received nearly \$4.0 million in Payments in Lieu of Taxes in 2012 (**Table 3-53**, Study Area Payments in Lieu of Taxes (Fiscal Year 2012)).

Table 3-53
Study Area Payments in Lieu of Taxes
(Fiscal Year 2012)

Location	Payments in Lieu of Taxes Amount
Nevada	
Carson City	\$119,008
Churchill County	\$2,151,359
Douglas County	\$632,761

Table 3-53
Study Area Payments in Lieu of Taxes
(Fiscal Year 2012)

Location	Payments in Lieu of Taxes Amount
Lyon County	\$ 1,972,328
Mineral County	\$ 659,099
Nye County	\$2,898,375
Storey County	\$ 35,804
Washoe County	\$ 3,296,556
State	\$ 23,917,845
California	
Alpine County	\$ 147,988
Lassen County	\$1,259,819
Plumas County	\$398,336
State	\$ 40,272,053

Source: US DOI 2012

Non-market Values

Some of the most important socioeconomic factors associated with planning area BLM-administered lands are the nonmarket values offered by public lands management. Non-market values are the benefits derived by society from the uses or experiences that are not dispensed through markets and do not require payment. For example, there are unique and sensitive natural and cultural resources on BLM-administered lands, including Native American traditional uses and the special spiritual contribution and foundations BLM-administered lands provide to Native American cultures. These values enhance the quality of life and enjoyment of place, thereby improving regional and local economic conditions. Proximity to undeveloped natural lands and the resources they harbor, including scenic vistas and recreational and wildlife viewing opportunities, add nonmarket value to the area. Two examples of nonmarket benefits available from public land resources include the enhancement value of open space and ecosystem services, as discussed below.

Open Space: Enhancement Value and Attracting Non-labor Income

Open space can be an important contributor to quality of life for communities adjacent to BLM-administered lands providing scenic views, recreational opportunities, and other benefits. In addition, nonmarket resources may provide indirect economic benefits. Enhancement value is the tendency of open space to enhance the property value of adjacent properties. BLM-administered may provide enhanced value to adjacent private parcels. Open space is generally seen as an enhancement value, especially if the open space lands are not intensively developed for recreation purposes (Fausold and Lilieholm 1996).

Additionally, open space may attract new residents who in turn bring new sources of income to the area. Communities adjacent to public lands offer a high

level of natural amenities that often attract retirees and others with nonlabor sources of income, as well as sole proprietors and telecommuters who bring income from other regions into the local economy. These new residents, in turn, spur economic development. Residents who rely on nonlabor income become both a pool of customers and clients for new business and a potential source of investment capital (Haefele et al. 2007).

Ecosystem Services

Ecosystem services are those goods that an ecosystem provides for human use. Examples include provision of fresh water and air, regulation of wastes, maintenance of biodiversity, formation of soil, and protection from natural hazards. Recent models have been created to assess the economic benefits of ecosystem services so that these economic values can be incorporated into the planning process. Some recent studies have created models to assess the monetary value of ecosystem services. A study based in the Pike San Isabel National Forest of Colorado's Front Range, for example, determined the total value of ecosystem services to be \$2,208 per acre per year in 2008 (Bacigalupi 2010).

Similarly, environmental restoration efforts (i.e., clean up and restoration of abandoned mines lands) can have economic values to local communities. As lands and water quality improves, the value of these resources for all other land uses will increase.

Agriculture and Livestock Grazing

Agriculture and livestock grazing have traditionally played a role in the study area and continue to be important today. There were 2,317 farms totaling over 1.6 million acres in the study area in 2007 (USDA 2007). BLM management actions have the potential to influence farming due to the purchase of farmland and through management practices influencing livestock grazing practices on BLM-administered lands as discussed in detail below.

Livestock grazing, grazing authorizations, and livestock uses are measured in AUMs. An AUM is the amount of dry forage required to sustain 1 "animal unit" for 1 month; this equates to a forage allowance of 26 pounds per day. For authorization calculation purposes, an animal unit is 1 cow and her calf, 1 horse, or 5 sheep or goats. Depending on the composition and weight of animals in the herd, actual forage use may vary. The BLM-administered range in the planning area is permitted at a level of 156,731 AUMs of forage with 6,222 suspended use AUMs (BLM 2011c). Within the planning area, there are 111 allotments and 52 permittees. The allotments vary in size from 120 to 512,449 public acres, with grazing allocations ranging from 29 to 11,410 AUMs in each allotment (BLM 2011c). Allotments are being reviewed by the Sierra Front-Northwestern Great Basin Resource Advisory Council developed standards to review rangeland health and management. For the 111 allotments, there are 67 permits,

35 of which have been renewed through an environmental assessment and grazing decision.

Permit values fluctuate based on market forces but generally depend on the number of AUMs and other terms of the lease or permit. Permit values may vary widely, depending on the location and the estimated average value of replacement forage. In 2012, the average fee per AUM on private lands in Nevada was \$13.00 (BLM 2012j). Based on 156,731 active (including temporarily suspended) AUMs in the planning area, the total annual grazing value of all traditional leases would be approximately \$2,037,503. Under the current federal rate of \$1.35 per AUM, the comparative total annual grazing fee would be \$211,587, which is \$1.8 million less than the private grazing fee for all authorized grazing in the planning area. Based on input received from local community members at economic workshops, livestock grazing is viewed as an important economic sector in the Stillwater Field Office and of lesser importance in the Sierra Front Field Office. It should be noted that other grazing costs (e.g., herding, maintenance of facilities, and lost animals) can be substantially higher on BLM-administered lands. A 2010 study found that when these costs are taken into account, costs for grazing on private lands are actually \$1.20 per AUM less than equivalent grazing on BLM-administered lands (Rimbey and Torrell 2011).

Resource Changes

The population within the planning area is projected to experience an increase for all counties by approximately 20 percent across the entire planning area from 2015 to 2030. Counties within Nevada are expected to grow by less than 1 percent to 22 percent, while all California counties are expected to grow by less than 10 percent. This is a growth in population is slightly slower but consistent with the overall growth of Nevada and California over the past few decades.

It is also expected that the major drivers of the economy will remain consistent or increase in the future based on the continued improvement of the US economy. These include tourism, recreation, mineral exploration, and agriculture and livestock grazing. The expansion of geothermal energy production in the area is also expected to bolster the economy in the future. The social values of the CCD are also expected to remain consistent, such as the desire for open space and rural lifestyles.

3.5.5 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, requires that federal agencies identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Guidance for evaluating environmental

justice issues in land use planning is included in the BLM Land Use Planning Handbook, Appendix D (BLM 2005a).

Environmental justice refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. It focuses on environmental hazards and human health to avoid disproportionately high and adverse human health or environmental effects on minority and low-income populations. Low-income populations are defined as persons living below the poverty level based on total income of \$11,139 for an individual and \$22,113 for a family household of 4 for 2010 (USCB 2010d). Black/African American, Hispanic, Asian and Pacific Islander, American Indian, Eskimo, Aleut, and other non-White persons are defined as minority populations.

Current Conditions

Low-income Populations

The planning area is characterized by a range of incomes. In Nevada, estimates from 2010 indicate that Nye, Mineral, and Carson City Counties had relatively high percentages of persons below poverty level (14.2, 11.4, and 9.6 percent, respectively) when compared to the state average of 8.6 percent. In California, Lassen County was slightly above the state average (10.2 percent), with 10.5 percent of its population below poverty level. In contrast, Churchill, Douglas, Lyon, Storey, and Washoe Counties in Nevada and Alpine and Plumas Counties in California were at or below their respective state averages in 2010 for percent of individuals below poverty level.

Estimates from 2010 indicate that Douglas, Storey, and Washoe Counties in Nevada had per capita incomes (\$35,239, \$31,079, and \$29,683, respectively) that were above the state level of \$27,589. The remaining counties in Nevada and all study area counties in California were below the respective state per-capita income level. Likewise, there was a range in median household income, from a high of \$63,478 in Alpine County, California, to a low of \$35,446 in Mineral County, Nevada (USCB 2000; USCB 2010c).

Minority Populations

The social and economic context of the study area is based on the study area counties. **Table 3-54**, Study Area Population by Race/Ethnicity (2010), describes the estimated 2010 racial and ethnic composition of the study area. In 2010, approximately 73.5 percent of Nevada's population was identified as White and not of Hispanic or Latino origin. People of Hispanic or Latino descent (of any race) accounted for 26.5 percent of the total state population (USCB 2010a). In California, 40.1 percent of the population was identified as White and not of Hispanic or Latino origin. People of Hispanic or Latino

Table 3-54
Study Area Population by Race/Ethnicity (2010)

Population	Nevada									California				Study Area
	Carson City	Churchill	Douglas	Lyon	Mineral	Nye	Storey	Washoe	State	Alpine	Lassen	Plumas	State	
Hispanic or Latino ethnicity of any race	11,777	3,009	5,103	7,674	436	5,967	228	93,724	716,501	84	6,117	1,605	14,013,719	135,724
	21.3%	12.1%	10.9%	14.8%	9.1%	13.6%	5.7%	22.2%	26.5%	7.1%	17.5%	8.0%	37.6%	19.1%
Not Hispanic or Latino, by Race														
White alone	39,083	19,030	39,094	40,634	3,271	34,663	3,532	278,213	1,462,081	852	23,270	17,015	14,956,253	498,657
	70.7%	76.5%	83.2%	78.2%	68.5%	78.9%	88.1%	66.0%	54.1%	72.5%	66.7%	85.0%	40.1%	70.30%
Black or African American alone	1,003	366	174	363	182	836	40	9,088	208,058	0	2,790	181	2,163,804	15,023
	1.8%	1.5%	0.4%	0.7%	3.8%	1.9%	1.0%	2.2%	7.7%	0.0%	8.0%	0.9%	5.8%	2.12%
American Indian or Alaskan Native alone	1,096	991	759	1,061	666	592	57	5,782	23,536	210	999	460	162,250	12,673
	2.0%	4.0%	1.6%	2.0%	14.0%	1.3%	1.4%	1.4%	0.9%	17.9%	2.9%	2.3%	0.4%	1.79%
Asian alone	1,139	633	699	701	49	547	66	21,288	191,047	7	337	127	4,775,070	25,593
	2.1%	2.5%	1.5%	1.3%	1.0%	1.2%	1.6%	5.1%	7.1%	0.6%	1.0%	0.6%	12.8%	3.61%
Native Hawaiian and Other Pacific Islander alone	91	41	60	124	6	179	12	2,358	15,456	0	163	18	128,577	3,052
	0.2%	0.2%	0.1%	0.2%	0.1%	0.4%	0.3%	0.6%	0.6%	0.0%	0.5%	0.1%	0.3%	0.43%
Some Other Race	67	25	64	79	2	53	2	673	4,740	1	363	18	85,587	1,347
	0.1%	0.1%	0.1%	0.2%	>0.1%	0.1%	>0.1%	0.2%	0.2%	0.1%	1.0%	0.1%	0.2%	0.19%

Source: USCB 2010a

Note: The sum of the five race groups may add to more than the total population because individuals may report more than one race.

descent (of any race) accounted for 37.6 percent of the total state population (USCB 2010a). As a whole the study area is less diverse than the state populations; in the study area as a whole, approximately 70.3 percent of the total population was identified as White and non-Hispanic/Latino origin in 2010. Hispanics/Latinos of any race accounted for 19.1 percent of the total study area population. Of this group, the majority identified themselves as white (9.3 percent of total population), or some other undefined race (8 percent of total population).

Carson City and Washoe County in Nevada were the most diverse counties in the planning area, with approximately 22.2 and 21.3 percent of the population of Hispanic/Latino origin, respectively. All other counties in the planning area had a smaller proportion of people who identified themselves as Hispanic/Latino, ranging from 5.7 percent in Storey County, Nevada, to 17.5 percent in Lassen County, California. All counties in the planning area were below the Nevada state level of 26.5 percent and California state level of 37.6 percent of Hispanic/Latino origin (USCB 2010a).

People in the majority of the planning area identified themselves as White. A total of 70.3 percent of the population of non-Hispanic-Latino descent identified themselves as White. Other races represent a significantly smaller segment of the population.

A total of 12,673 people (1.8 percent of the study area population) identified themselves as American Indian or Alaskan Native alone, and 15,023 people (2.1 percent) identified themselves as Black or African-American alone. A total of 25,593 people (3.6 percent) identified themselves as Asian alone, and 3,052 people (0.43 percent) identified themselves as Native Hawaiian and Other Pacific Islander alone (USCB 2010a). Based on population projections for the Nevada portion of the study area, persons of Hispanic origins of any race are expected to increase 49 percent between 2015 and 2030 (Nevada State Demographer's Office 2011). This information is not yet available for the study area counties in California.

Native American Populations

Native Americans (and Alaskan Natives) account for a small percentage of the study area population, with the exception of Alpine County, California, and Mineral County, Nevada, where the population is 17.9 and 14 percent American Indian or Alaskan Native, respectively. The BLM manages lands within the aboriginal territory of people identified based on commonality and differences in language and culture as Washoe, Northern Paiute, and Western Shoshone. Six tribal governments have reservations within the planning area and four additional tribes hold reservation lands beyond the CCD boundary (see **Table 3-55**, Tribal Reservations in and near the CCD). Each of the 10 groups is a federally recognized Native American tribe (25 USC 479a). Each tribe, as well as

Table 3-55
Tribal Reservations in and near the CCD

Tribe	Cultural Division(s)	General Location	CCD Geographic Area of Specific Concern
Bridgeport Paiute Indian Colony	Northern Paiute	Mono County, CA (outside of planning unit)	Stillwater and Sierra Front Field Offices – Southern Lyon and Western Mineral Counties
Fallon Paiute-Shoshone Tribe	Northern Paiute and Western Shoshone	Churchill County, NV	Stillwater and Sierra Front Field Offices – Northeastern Lyon and Western Churchill Counties
Lovelock Colony	Northern Paiute	Pershing County, NV (outside of planning unit)	Stillwater Field Office only – Northern Churchill County
Pyramid Lake Paiute Tribe	Northern Paiute	Washoe, Storey, and Lyon Counties, NV	Sierra Front Field Office only – Northern Storey and Northern Lyon Counties; Washoe County north of I-80
Reno-Sparks Indian Colony	Northern Paiute, Washoe, Western Shoshone and other Tribes	Washoe County, NV	Sierra Front Field Office only – Northern Storey County and Washoe County from Truckee Meadows north
Susanville Indian Rancheria	Northern Paiute, Washoe, Atsugewi, Achumawi, and Maidu	Plumas County, CA (outside of planning unit)	Sierra Front Field Office only – Plumas and Lassen Counties (CA); Washoe County west of Peterson Mountain and north of Fort Sage Mountains
Walker River Paiute Tribe	Northern Paiute	Churchill, Lyon, and Mineral Counties, NV	Stillwater and Sierra Front Field Offices – Eastern Lyon, Western Churchill, and Northern Mineral Counties
Washoe Tribe of Nevada and California	Washoe	Alpine County, CA; Carson City and Douglas Counties, NV	Sierra Front Field Office only – Alpine, Plumas, and Lassen Counties (CA); Washoe County west of Virginia Mountains; Carson City and Storey Counties; Douglas and Lyon Counties west of the Pine Nut Mountain crest
Yerington Paiute Tribe	Northern Paiute	Lyon County, NV	Stillwater and Sierra Front Field Offices – Lyon, Southern Storey, and Eastern Douglas Counties
Yomba Shoshone Tribe	Western Shoshone	Nye County, NV (outside of planning unit)	Stillwater Field Office only – Eastern Churchill, Eastern Mineral, and Western Nye Counties

Source: BLM 2011c

the California Native American Heritage Commission and the Inter-Tribal Council of Nevada, maintains a general concern for protection of and access to areas of traditional and religious importance, and the welfare of plants, animals, air, landforms, and water on reservation and BLM-administered lands.

Policies established in 2006 by the BLM and Forest Service, in coordination with federal tribes, ensure access by traditional native practitioners to area plants. The policy also ensures that management of these plants promotes ecosystem health for BLM-administered lands. The BLM is encouraged to support and incorporate into their planning traditional native and native practitioner plant-gathering for traditional use (Boshell 2010).

Environmental Justice Populations and RMP Analysis

Due to the low percentage of individuals in minority groups or low income populations in the planning area overall, it is not likely that considerations for environmental justice populations will require modification of RMP alternatives or mitigation measures. For all geographic areas examined in the study area, the percentage of minority individuals or individuals below poverty level does not exceed the national average by 20 percentage points or more, or 50 percent of the total population, meaning that the counties do not have a minority population according to Council on Environmental Quality guidelines. Impacts on regional and local environmental justice populations will be addressed in the RMP/EIS following standards and guidelines set forth in Executive Order 12898 and BLM Land Use Planning Manual H-1601-I, Appendix D (BLM 2005).

3.5.6 Facilities and Transportation Maintenance

The BLM's transportation system represents one of the most critical assets to the accomplishment of the BLM's mission to manage public lands. It affords entry for public access and provides the infrastructure that supports uses ranging from recreation to commercial activity and is the primary means of access to lands under BLM jurisdiction.

Current Conditions

Federal, State, and County Roads

A network of federal, state, and county roads provide local access throughout the CCD. Highways 395 and 50 and Interstate 80 provide major access to the CCD from all directions.

Traffic volumes on the road network are highly variable. The highest volume counts are found on major roadways in or near the largest communities, but BLM recreation sites and back road throughways within the planning area also experience heavy seasonal traffic flow.

BLM Roads

BLM roads provide public and administrative (e.g., agency and permittee) access to public lands, through public lands, and to inholdings of private land within the

planning area. Reasonable administrative access is made available to persons engaged in valid uses, such as mining claims, mineral leases, livestock grazing, and recreation. Most use of BLM roads would be described as casual use, where foot, pack stock, and mechanized and motorized vehicle travel is appropriate, restricted, or not allowed, depending on resource objectives and use considerations.

Road System Maintenance

The BLM maintains 789 miles of roads throughout the CCD (**Figure 3-13**, BLM Maintained Roads) as part of the CCD Transportation Plan. The BLM maintains roads under standards set forth in BLM 9100 Series Manuals and the CCD RMP. Maintenance provides for resource protection, accommodation of permitted users, and protection of the BLM's investment. The BLM uses the road maintenance intensities described in **Table 3-56**, Road Maintenance Intensities. Road system maintenance has focused on maintaining major recreational access roads, which generally receive most of the traffic volume. Approximately 225 lane miles of road are maintained annually within the planning area, depending on road conditions and funding availability. Road maintenance generally consists of shaping, providing drainage, blading, and grading. It is usually performed in the summer or fall. Additional corrective maintenance or water drainage work (e.g., installation of culverts, drains, or other water-management devices) is performed as needed, such as after periods of heavy rainfall. Snow is not removed.

Maintenance is scheduled on an annual, 5-year, and 10-year cycle. Transportation plan meetings are held quarterly to update the CCD Transportation Plan. Road specifications statistics and work order requirements are tracked as a locational asset through BLM's Facility Asset Management System. The district engineer serves as data steward. Repair emergencies and special case maintenance priorities are assigned according to severity of disrepair and effect on the BLM administration's or permit holder's mission. Roads included in the planning area Transportation Plan are classified as Level 3 roads with the exception of approximately 12 lane miles of Level 1 and 2 paved roads at major recreation sites. Recent weather-related emergency repairs combined with declining funding for personnel and equipment has prevented BLM from maintaining all of the 5- and 10-year roads at the Level 3 standard.

Functional Road Classification Types for BLM System Roads

Based on BLM Manual Section 9113 (Roads), roads on BLM-administered lands are classified into three classes by the amount of traffic movement: collector, local, and temporary resource roads.

Collector Roads (Level 4 or 5)—These BLM-administered roads normally provide primary access to large blocks of land and connect with or are extensions of a public road system. They accommodate mixed traffic and serve many uses. They

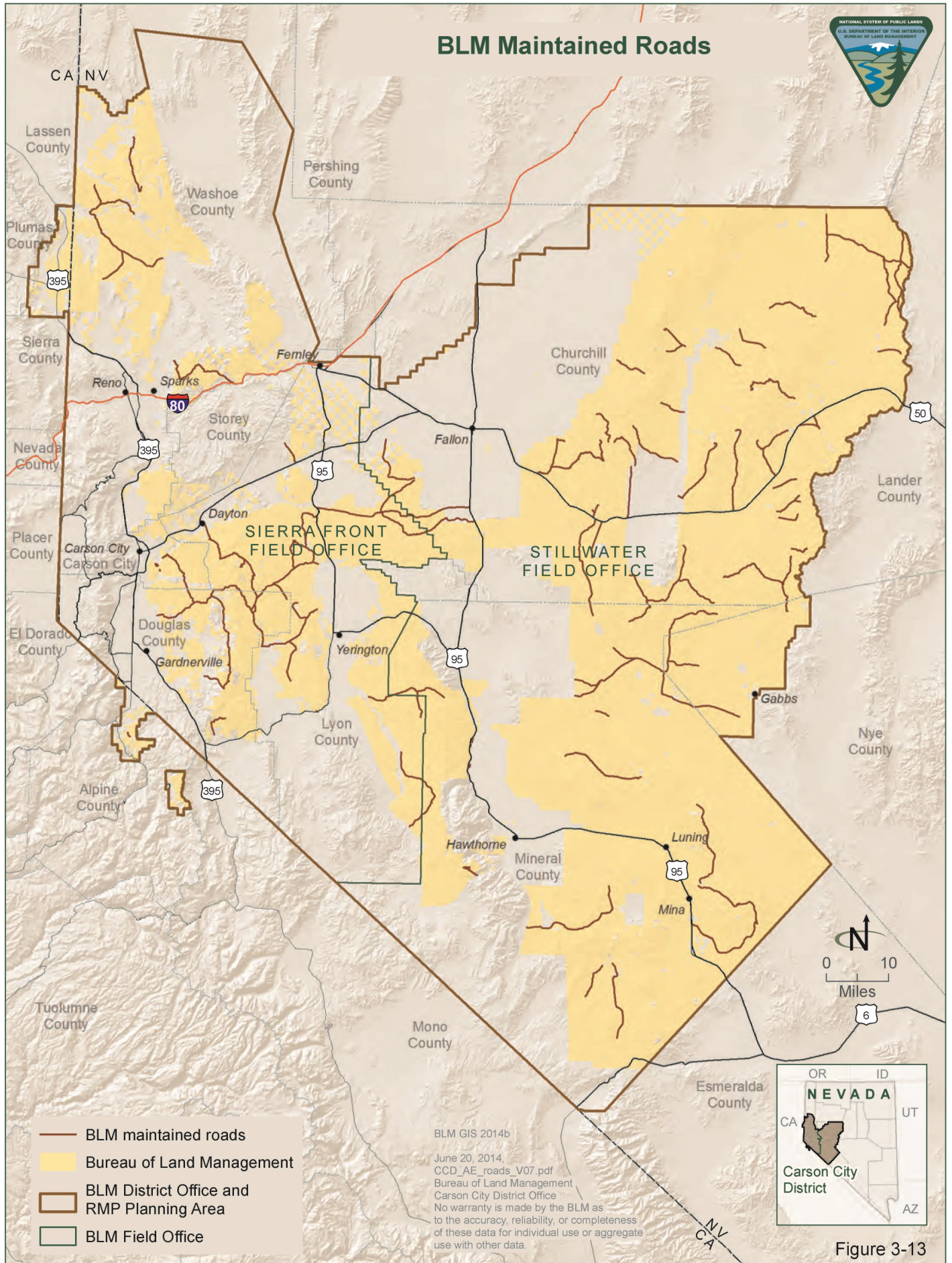


Table 3-56
Road Maintenance Intensities

Maintenance Level	Description
Level 1	Assigned to roads where minimum maintenance is required to protect adjacent lands and resource values. These roads are no longer needed and are closed to traffic. The objective is to remove these roads from the transportation system.
Level 2	Assigned to roads where the management objectives require the road to be opened for limited administrative traffic. Typically, these roads are passable by high clearance vehicles.
Level 3	Assigned to roads where management objectives require the road to be open seasonally or year round for commercial, recreational, or administrative access. Typically, these roads are natural or aggregate surfaced but may include low use bituminous surfaced road. These roads have a defined cross section with drainage structures (e.g., rolling dips, culverts, or ditches). These roads may be negotiated by passenger cars traveling at prudent speeds. User comfort and convenience are not considered a high priority.
Level 4	Assigned to roads where management objectives require them to be open all year (except that they may be closed or have limited access due to snow conditions) and which connect major administrative features (such as recreational sites, local road systems, administrative sites) to county, state, or federal roads. Typically, these roads are single or double lane, aggregate or bituminous surface, with a higher volume of commercial and recreational traffic than administrative traffic.
Level 5	Assigned to roads where management objectives require the road to be open all year and are the highest traffic volume roads of the transportation system.

generally receive the highest volume of traffic of all roads in the BLM road system. User cost, safety, comfort, and travel time are primary road management considerations. Collector roads usually require application of the highest standards used by the BLM.

Local Roads (Level 4 or 3)—These BLM roads normally serve a smaller area than collectors and connect to collectors or public road systems. Local roads receive lower volumes, carry fewer traffic types, and generally serve fewer users. User cost, comfort, and travel time are secondary to construction and maintenance cost considerations. Low volume local roads in mountainous terrain, where operating speed is reduced by terrain, may be single-lane roads with turnouts. Environmental impacts are reduced because steeper grades, sharper curves, and lower design speeds than would be permissible on collector roads are allowable.

Resource Roads (Level 2)—These BLM roads are spur roads that provide point access and connect to local or collector roads. They carry very low volume and accommodate only one or two types of use. Use restrictions are applied to prevent conflicts between users needing the road and users attracted to the road. The location and design of these roads are governed by environmental

compatibility and minimizing BLM costs with minimal consideration for user cost, comfort, or travel time.

Airports and Railroads

Within the planning area, there are 29 private and public Federal Aviation Administration designated airports and 6 heliports. This includes three public airport leases on BLM-administered lands and several private airstrips that are used year-round by public and private entities. These airstrips are necessary for small aircraft to cover expansive distances safely.

The BLM has over 200 miles of operational railroads crossing public and private lands, mainly in Churchill, Lyon, Mineral, Storey, and Washoe Counties. Original railroad ROWs held by Western Pacific, Central Pacific and Southern Pacific Railroad companies in this area are now controlled by the Union Pacific Railroad Company. The Virginia and Truckee Historic Railway is a tourism-oriented railroad administered by the Nevada Commission for the Reconstruction of the V&T Railway. It runs between Gold Hill and Carson City, crossing public and private lands within Storey County, Lyon County, and Carson City. There are plans to extend the railway to other parts of this area. There is currently no outstanding access issues associated with railroads within the planning area.

Resource Changes

Maintenance costs are rising, and they will continue to impact the number of miles of BLM Roads that are maintained each year. With flat federal budgets and rising fuel and equipment costs for contractors, it is likely that this trend will continue in the future.

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